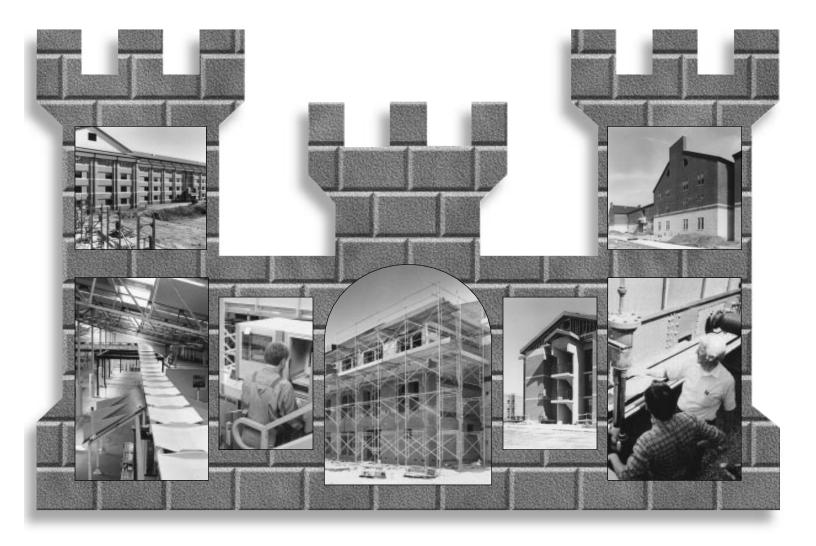
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Corps Installation Support

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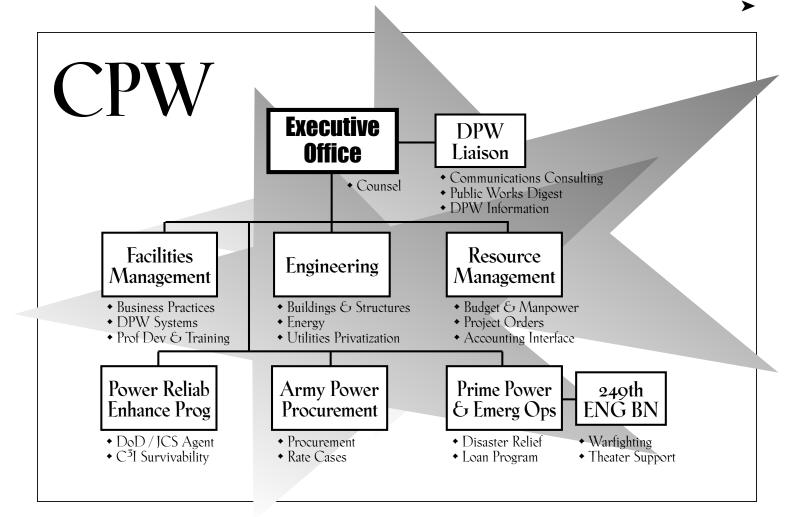
The U.S. Army Center for Public Works—working for you

by Alexandra K. Stakhiv

The fundamental purpose of The U.S. Army Center for Public Works (CPW) is to provide **installation support**. This means we're here for you, the Directors of Public Works, and **you** are our best customers. To better support you, we leverage the expertise of our in-house staff with contracts to become a "force multiplier," providing a wide variety of technical services to installations.

We promise "excellent support based on customer needs." Each managed by a CPW subject matter expert COR, our contracts are principally indefinite quantity, indefinite delivery order contracts. Typically, they focus on preventive maintenance, training, privatization, support and sustainment services, and business practices. You can count on us to cut the overhead costs that come with drawing up scopes of work, letting and then administering a contract— as well as giving you the quality assurance you need to make sure that you are getting the most from your scarce dollars. You only pay for the work the contractor does for you.

Our two major directorates take an interdisciplinary approach to your installation needs. Our Facilities Management Directorate has many experts in planning, property management, and resources. It concentrates on public works management issues, which include systems development and maintenance, job order contracting, professional development and training, public works initiatives, real property, and installation master planning. Directorate personnel maintain the CPW Home Page, which offers you a library of con-





tract-related documents. This means you don't have to waste time and money writing your own contracts. Our Home Page includes publications such as the *Public Works Digest, DPW Roster, and DPW Reference Book;* HQEIS software; SOPs for the DPW work processes; a wealth of training information; and much, much more.

The Facilities Management Directorate also manages the Staff Assistance Visit program, which offers a concen-

trated focus on DPW challenges, transfer of information, and identification of systemic challenges. In FY 97, we visited ten Army installations, where five-member teams of CPW experts in real property engineering and management

functions offered on-site assistance to your Directorate of Public Works staffs. You have read about many of the "good ideas" observed during these visits in articles we have written for the *Public Works Digest* and the *SAV Bulletin*.

Our Engineering Directorate focuses on technical guidance, contract support and expert advice on maintaining and improving Army facilities and utilities. It includes the Sanitary and Chemical Division, Mechanical and Energy Division, Pavements and Railroads Division, Buildings and Structures Division, and Electrical Division, plus a Special Projects Office to help

resolve work classification issues on projects over \$2M. Our engineering experts have the ability to respond quickly to installation calls for help. Typically, they offer unlimited telephone assistance and three days of onsite consulting assistance free of charge. You just pay for the TDY costs.

The Engineering Directorate also manages the Facilities Engineering Applications Program (FEAP). This is the only Army program that tests and

tain prime power equipment. These soldiers provide prime power to support warfighting, contingency and disaster relief operations.

The Army Power Procurement Office is the Chief of Engineers' agent for Army utilities acquisition and sales. They can help you get better deals when utility rate setting, negotiating with utility companies and securing hydropower allocations. Today, this office is the Army's prime mover in helping

installations privatize utilities. Currently, they are overseeing close to 400 privatization studies and actions.

We also work with other Army organizations to find solutions to your problems. They have helped us to find ways to improve life-cycle man-

agement of facilities and infrastructure with engineered management systems such as ROOFER, RAILER, and PAVER. These technologies are created and made available to your installation from a variety of labs and other organizations. In this issue of the *Public Works Digest* dedicated to installation support, we showcase some of the Corps laboratories, districts and organizations which offer you their services.

CPW is working hard to bring you innovative ideas to help you operate, maintain and repair the facilities on your installation while saving you time and money. Our combined directorates offer a wide range of technical services; all are at your service. Nevertheless, you and your MACOM staff remain the key to successful partnerships. You and you alone know what your problems are. Call on us. We're here to help you. Remember, you are our **best** customers and we will treat you as such. Working together, we can solve your technical engineering problems.

Alexandra K. Stakhiv is the editor of the **Public Works Digest**.



We welcome your comments and suggestions on how to improve our services to you:

PUBLIC WOL	Executive Office	(703)	428-6900	DSN 328
DLIC	DPW Liaison Office	(703)	428-6933	DSN 328
Directorate of Facilities Management		(703)	428-8209	DSN 328
Directorate of Engineering		(703)	806-6023	DSN 656
Directorate of Army Power Procurement		(703)	428-7362	DSN 328
Directorate of Power Reliability & Enhancement		(703)	428-9174	DSN 328
Directorate of Prime Power & Emergency Operations (703) 805-2656 DSN 6				DSN 665

demonstrates new technologies that save money, facilities, and work effort for you— the potential users.

Our Directorates of Army Power Procurement, Power Reliability and Enhancement (PREP), Prime Power and Emergency Operations round out CPW's services by providing utility support missions:

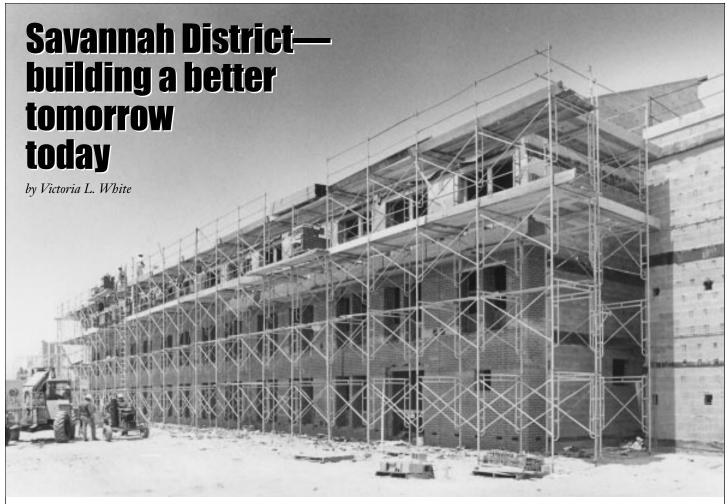
PREP continues its vital operation support to Command, Control Communication and Intelligence sites and engineering support to the DPWs responsible for sensitive sites. You can use their Power Testing Facility to load test your power plants at no cost or

> borrow their portable generators and just pay for transportation.

The Directorate of Prime
Power and Emergency Operations manages our Prime Power
Loan Program, which can help
you cut utilities costs or provide backup while your
sytems are down for repair.
The 249th Engineer Battalion
can inspect and test your
transformers and train your
personnel to operate and main-

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Built at a cost of \$14.7 million, the COSCOM (XVIII Airborne Corps Support Command) Barracks complex consists of three, three-story barracks, a soldier community building, and five company operations buildings. The barracks will house 246 soldiers and will be ready for occupancy in October 1998.

ne of 40 Corps districts, the Savannah District, U.S. Army Corps of Engineers, supports 14 military installations in North Carolina, South Carolina and Georgia that are home to America's most elite and sophisticated military forces.

We offer quality and quantity...

Quality

Engineers are working hard to improve the quality of life at Fort Bragg.

Single soldiers will soon enjoy barracks that offer larger, brighter rooms, modern amenities, private bedrooms, walk-in closets, kitchenettes— all packaged in a color-coordinated efficiency apartment. Best of all, E-4s and below will have only one roommate while E-5s and above will enjoy private quarters.

Army families will soon enjoy a

bright, open floor plan with living and dining room combination, a spacious, modern kitchen that features lots of cabinets, a master bedroom with private full bath, walk-in closets, and covered parking in beautifully landscaped communities. The Army calls it the "Whole Neighborhood Revitalization" program, but our soldiers and their families will proudly call their family housing areas **HOME**.

The new Womack Army Medical Center is a state-of-the-art treatment facility that rivals- and even surpasses— many civilian hospitals nationwide. Children are an important part of the Army family, too, and the children at the beautiful new child development centers on Fort Bragg now enjoy safe, affordable daycare.

The Savannah District is proud to

be a part of making a soldier's life better. We're the folks who are managing all this construction. We're happy to offer our engineering design and construction services to help make Fort Bragg the first-class community our soldier's deserve—the Army's showcase post— as we approach the 21st Century.

Ouantity

More than 145 construction projects are being built at Fort Bragg right now totaling more than \$484 million. Almost \$155 million is being spent to renovate or build new barracks, and \$34 million is being spent for family housing. The new Womack Army Medical Center and associated medical clinics being built conveniently near housing areas account for \$250 million of construction at Fort Bragg.



The Army is spending a lot of money to improve soldier quality of life and it's the best investment America can make. For our part, the Savannah District, in partnership with all of our many important customers at Fort Bragg, is making sure that these projects are built with quality, on schedule and under budget. We have a team of engineers, architects, scientists, technicians and other specialists on board to help us achieve our goal— to build a better tomorrow today.

Victoria L. White is a public affairs specialist for the Savannh District.



Above: The barracks on Smoke Bomb Hill are being gutted and converted from three- to two-man rooms to be similar to the Army's new 1+1 standard. A total of 19 barracks will be renovated to provide housing for the 20th Enginer Brigade (15 barracks are currently under contract for \$35 million). Individual barracks will be turned over as they are completed, with the last building scheduled for completion by June 1999.

Left: The \$25.9 million SOF (Special Operation Forces) Barracks will house approximately 780 soldiers. Phase I construction, which consists of two barracks and a soldier community building, is scheduled for completion February 1998. Phase II construction (a single barracks) is scheduled for completion July 1998. The complex is being built for the 4th Psychological Operations Group.



Holland Barracks—two three-floor buildings with a total of 188 rooms—is part of a complex that includes a brigade headquarters building, two battalion headquarters buildings, four company operations buildings, one dining facility, and a soldier community building. The \$31.3 million complex is being built for the 525th Military Intelligence Brigade and is nearly complete. The barracks, which will house approximately 376 soldiers, will be ready for occupancy in December.

(Photos by Jonas Jordan)



Huntsville Center a strong customer focus

by Linda James

he U.S. Army Engineering and Support Center in Huntsville, Alabama, has business like no other in the Army Corps of Engineers. But, a "business" it is. Its customers buy services and products to the tune of \$500 million each year. Almost \$200 million of that falls in the area of major command (MACOM) installation support.

Unlike other Corps organizations, geographical boundaries do not define the Huntsville Center's customers. Our customers span the uniformed services and other federal agencies. The Center's missions are determined by the nature of its products and services. Its programs are atypical because they are national or broad in scope, require integrated systems that cross Corps geographic boundaries, and require standardization, technology transfer or a centralized management structure.

Products and Services

Huntsville Center provides MACOM installation support in four primary areas: medical, energy, environmental restoration, and design services.

Medical Program. Through this program, Huntsville Center provides support to the military medical community for design, repair, renovation, or replacement of medical facilities; and it procures equipment, furniture, and furnishings.

An innovative contracting procedure called Simplified Facility Support Process has become the hallmark of the repair and renewal effort for Army and Air Force medical facilities with dramatic reductions in the time and costs



Through its Medical Program, Huntsville Center supports the military medical community with purchase of state-of-the-art medical equipment such as this Medical Diagnostic Imaging System.

associated with operations and maintenance projects.

Today, through Huntsville Center's specialized expertise and ability to provide best value to its customers, U.S. service members and their families are enjoying the benefits of renovated medical facilities and state-of-the-art services such as Magnetic Resonance Imaging and Medical Diagnostic Imaging Support systems.

2 Energy Program. Huntsville Center's innovative contracting practices blazed a new path this year helping installations save money and energy.

Through Energy Savings Performance Contracting (ESPC), a commercial contractor foots the bill for the design, capital investment, construction, operation and maintenance for new, energy efficient equipment, products or systems. The cost to the installation for the contractor's work? *Not a dime*. The resulting energy cost avoidance is shared between the government agency and the contractor. The contractor uses the energy savings dollars to offset his investment and make a profit. The government uses its portion of the savings benefit for other operational needs. Through a partnership with the U.S.

Forces Command, this program is available in every state, the District of Columbia and Puerto Rico. Not limited to federal facilities, it's also open to state and local government facilities.

Other Energy Program initiatives include the Operation and Maintenance Energy Repair that uses the Simplified Facility Support Process to provide quick, flexible responses to energy savings opportunities and problems facing Army installations.

3 Environmental Engineering. Huntsville Center's specialized engineers, project managers, and safety specialists are dedicated to public safety, environmental restoration and the application of innovative technology in the stewardship of environmental resources. In fact, the Center is the agency of choice for centralized project management and technical support for environmental cleanup at Defense Logistics Agency sites.

Huntsville Center's expertise in unexploded ordnance assists both active and closing installations in creating an environment safe from the contamination of exploded bombs.

Design Services. Huntsville provides installation customers



with highly specialized design services in the areas of Electronic Security Systems, Training Ranges, the Criteria Document Update Program, Engineering Automation and Standardized Designs, among others.

Electronic Security Systems. The Center develops criteria for design, construction, procurement and evaluation of electronic security systems for installation projects and other federal facilities such as the Smithsonian Institution. Design responsibilities encompass activities from project site surveys through delivery of a completed project design package and procurement.

Training Ranges. Huntsville is integral to the Army's range modernization and standardization program. For more than a decade, the Center has provided technical support and expertise from the initial planning through design and construction of ranges for the Army, the Marine Corps and the Army Reserves. For example, it is now working on the urban mounted combat range for the U.S. Army Armor Center at Fort Knox, Kentucky.

Criteria Document Update Program. Through this program, Huntsville Center develops and maintains documents, designs and standards that support customer needs. Criteria

A Knowledge- and Service-Based Organization

Key Processes:

Customer Services/Products

INPUTS III



Knowledge

- Engineering and Technical Services
- Program and Project Management
- Contracting
- · Construction Management

documents, standard designs, "green" building technology and seismic support are all elements of this program.

Engineering Automation.

Huntsville Center is the recognized leader in the development and effective management of engineering automated processes. Through three key programs developed and managed at Huntsville Center, installation engineers all across the Army can more efficiently and effectively develop cost estimates and plan projects using standard formats.

Standardized Designs. From conforming storage facilities to child development centers, from fire stations to physical fitness centers, Huntsville Engineering and Support Center provides installations with quality standard designs to meet requirements quickly and to give installations the best value for their dollar.

Huntsville Center's products and services are highly specialized and not typically found in other Corps organizations. Because the Center operates as a reimbursable business, its viability rests on the strength of its competitiveness. The workload is directly tied to our ability to generate, and, more importantly, to *keep* customers. So the Huntsville Center maintains a strong customer focus. In fact, Huntsville Center's senior civilian leaders have just instituted a method to include external customers' ratings into their performance appraisal system.

To find out more about Huntsville Center, explore our Web site at www.hnd.usace.army.mil.

Linda S. James is a public affairs specialist at the U.S. Army Engineering and Support Center, Huntsville.

U.S. Army Forces Command Remediation Contract

hen FORSCOM needed to solve O&M remediation problems at their installations that required a quick response and that were beyond the shrinking capabilities of the installation personnel, it turned to the Huntsville Center. Deemed the best vehicle for solving these problems, an Indefinite Delivery contract was awarded and administered by Huntsville. The contract, awarded in September 1992, is now in the fourth option year.

FORSCOM or various local agencies have provided the following funding for the delivery orders under this contract:

FY 92: \$3,422,477.37 FY 93: \$5,508,081.78 FY 94: \$20,476,409.96 FY 95: \$25,977,212.89 FY 96: \$22,762,844.64 FY 97: \$1,156,130.00 (to date)

To date, 183 delivery orders have been awarded for work at Forts Hood, Polk, Carson, Campbell, McPherson, Gillem, Stewart, Dix, McCoy, Irwin, Indiantown Gap, Sam Houston, Bragg, Riley, and Drum, and several U.S. Army Reserve Command facilities. Work is being done for the installation and for tenant units.



CERL's R&D supports DPWs through technology infusion

by Dana Finney

he Army's Construction Engineering Research Laboratories (CERL) focuses much of its research and development (R&D) on helping installation DPWs operate and maintain their infrastructure affordably while ensuring environmental quality. CERL develops and infuses new technology to assist the DPW by improving efficiency, reducing costs, enhancing the quality of life for soldiers, lowering energy consumption, complying with environmental laws, and providing sustainable training lands.

In addition to research, CERL performs an important function for the DPWs in serving as a "smart buyer." When a commercial product looks promising for meeting an installation's needs, researchers can conduct testing and demonstration to either validate or disprove claims about performance. This service helps identify those technologies that can benefit the DPW while weeding out the ones that would be unwise investments or potentially harmful to the environment (e.g., polluting).

CERL's R&D leverages support from the Corps Districts, the U.S. Army Center for Public Works (CPW), and other partners in bringing technologies to its installation customers. Following are some examples of technologies recently introduced by this process.

HEATMAP. District heating and cooling (DHC) systems can be analyzed and modified or designed to improve efficiency and reduce energy use. HEATMAP, which CERL adapted for the Army from an existing program, uses a graphical interface (AutoCad) that allows users to lay out their DHC system, transferring that information automatically from the drawing to a database containing information about the loads, production facilities, and any assumptions for economic analysis. HEATMAP will calculate the optimal pipe size for new or existing systems, identify choke points that can be caused



Ozone generators are readily available on the commercial market. We need to evaluate the economics of ozone treatment on a case-by-case basis.

by system expansion, and calculate thermal and leak losses for various system scenarios. Users can compare different technologies on a life-cycle basis. HEATMAP is available with online technical support. CERL has been developing HEATMAP for Army use in partnership with the Washington State Energy Office and the Institute for Gas Technology. To see the program demonstrated, visit CERL's booth at the DPW Worldwide Workshop in December. For more information, contact Chris Dilks at CERL, 217-398-5510.

Electro-Osmotic Pulse for Dry Basements. A technology patented in Norway has proven effective in preventing water seepage into basements on two military installations. Under the former Facilities Engineering Applications Program (FEAP), CERL demonstrated Electro-Osmotic Pulse (EOP) technology at Fort Jackson, South Carolina, and McAlester Army Ammunition Plant, Oklahoma, EOP uses electrodes which are mortared directly into concrete walls where moisture is a problem. A current applied to the electrodes produces an electric field in the walls. The electrical pulse causes the water to move from the dry side toward the wet side against the direction of flow induced by the hydraulic gradient. Once the walls are dry, electrical requirements drop to a minimum because of the concrete's lack of moisture and greater resistance. EOP technology saved 40 percent over conventional trench-and-tile remediation in the two demonstrations. For more information, contact Vincent Hock at CERL, 217-373-6753 or Fidel Rodriguez at CPW, 703-806-5979.

Ozone to Treat Cooling Tower Water. DPWs who are seeking an alternative to biocide treatment of water in cooling towers may want to consider using ozone. Cooling tower water is treated with various products to protect against corrosion and scaling while eliminating disease-causing bacteria such as the strains linked to Legionnaire's

disease. Additives include corrosion inhibitors, scale control chemicals, and biocides. Often several different biocides must be used together because organisms can develop immunity to a single biocide. CERL demonstrated ozone treatment at the U.S. Military Academy, West Point, under FEAP. The ozone is injected into the cooling tower water by commercially available ozone generators. Findings proved that ozone can be substituted as an effective biocide, although its efficacy as a corrosion/scale inhibitor was not validated. The payback for ozone treatment at West Point is under 5 years based on observed savings in water, blowdown, and chemicals.

For more information, contact Vincent Hock at CERL, 217-373-6753 or Malcolm McLeod at CPW, 703-806-5196. PWD

Dana Finney is the Chief of the Public Affairs Office at CERL.



Cold Regions Research and Engineering Laboratory cold problem solvers for the nation

by Marie Darling

dvancing knowledge of the cold regions through scientific and engineering research and putting that knowledge to work for the Army,

Department of Defense and the Nation is the mission of the Cold Regions Research and Engineering Laboratory (CRREL). Operating in cold regions requires appropriate equipment, training and doctrine, often very different from that used in more temperate conditions. These special requirements cover a broad range of mil-

cost or capability penalties.

Located in Hanover, New Hampshire, CRREL has a combination of facilities not found anywhere else in the world that are nationally and internationally recognized for their unique capabilities. Among the many unique research facilités at CRREL are the 24 lowtemperature research cold rooms with a temperature range down to -50°F located in the main laboratory. The Cold regions Science and Technology

Information and Analysis Center serves as the nation's federal repository for data generated within the cold regions area of

science and engineering.

CRREL has developed more than 40 cooperative research and development agreements with non-federal partners that encourage technology transfer. Through a variety of partnerships and multiple agency programs, CRREL has been able to sustain critical research and development efforts in many areas important to the military. Examples include:

Passive sensor detects leaks early

CRREL scientists have developed a low-cost passive sensor for early detection of leaks in low-slope roofing systems. This small, individual sensor requires no batteries to operate and so will last for the

life of the roof. It is easily embedded during installation of a new roof, and reset when the surrounding roofing material returns to a dry state. To determine if there is moisture at a location in the roofing, an inexpensive hand-held instrument is held in proximity to the sensor. Energy in the form of a pulsed radio signal is trans-

1995. The award is symbolic of "hammering away at building a better government" — one that works better and costs less. CRREL conducted two demonstration projects of the Ground-Coupled Heat Pump (GCHP) concept at Fort Polk. A total of 15 GCHPs,

ergy saving Earth-Coupled Heat

Pump project conducted at Fort Polk,

Louisiana, during the period of 1988-

as well as 11 air source units for comparison purposes, were installed and their performance was closely monitored

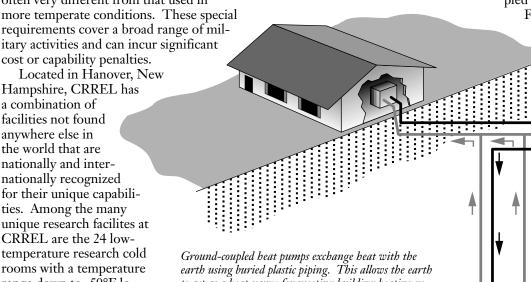
> for 5 years. The results, in terms of documented energy saving (approximately 30 percent) and practical lessons learned laid the ground work for a shared saving contract that retrofitted all 4,003 of Fort Polk's family housing units with these heating and cooling systems.

The shared saving contractor paid

all \$18 million of the retrofit costs in exchange for approximately 80 percent of the energy savings. Fort Polk will save nearly \$1 million per year in energy and maintenance costs over the 20-year life of the contract and more than double that after the contract period expires. Occupant comfort is also greatly increased, a "Quality of Life" plus for the Army.

🖚 For more information, please call Dr. Gary Phetteplace at (603) 646-4248. PWD

Marie Darling is a public affairs specialist in the CRREL Public Affairs Office. She can be reached at (603) 646-4292 DSN 220 or e-mail: mdarling@crrel.usace. army.mil



Ground-coupled heat pumps exchange heat with the earth using buried plastic piping. This allows the earth to act as a heat source for meeting building heating requirements and a heat sink for building cooling.

> ferred to the sensor, causing it to resonate or transmit energy. The frequency of the retransmitted radio energy indicates whether the sensor is wet or dry.

Early detection of leaks can save significant maintenance dollars, because repairing or replacing these roofs can cost anywhere from \$7 to \$10 per square foot. Early detection can prevent a leak from becoming severe and causing significant damage long before it is obvious to building

For more information, please call Stephen Flanders at (603) 646-4302 or e-mail: sfland@crrel.usace.army.mil

Ground heat pumps save energy

CRREL recently received the Hammer Award for its role in an en-



The Reinvention Center for Installation Support, U.S. Army Corps of Engineers:

An Army Solution— 21st Century Installation Service

by Lee Conley

uring the last ten years, the Army has significantly decreased major military construction programs. A smaller Army means that we don't need as much as in the past. Reduced construction and operations and maintenance resources likewise cause Army leaders to focus inward to improving base operation business processes. The most recent Quadrennial Defense Review (QDR) suggests that further reductions are necessary. Duplication is rampant in the Defense community. The QDR identified that approximately 33,700 personnel are involved in duplicate functions.

This downward trend of formerly assured facility improvements, workload and revenue flowing through the Army will continue well into the next decade. Amidst these reductions, Installation Commanders must provide a higher quality of life for service members and their families, modernize working environments, and maintain an infrastructure that approaches 50 years old. Because operations and maintenance funding is declining, commanders and others must consider more innovative approaches to gaining efficiencies. Our environment is moving us to change.

Commercial activity studies, privatization, capital venture initiatives, and end-strength shrinkage has the Corps of Engineers asking, "How can we serve the Army in the next century?"

The U.S. Army Corps of Engineers (USACE), as a major command, must seize the opportunity to capitalize on an often overlooked core competency – its ability to perform the tasks associated with Real Property Maintenance Activities (RPMA). USACE has a distinct

role in the future of installation RPMA service delivery. As a matter of routine, what other Army major command (MACOM) provides comprehensive life-cycle project management and engineering and technical services? None. FORSCOM — the Army's warfighter, TRADOC — the Army's trainer, AMC — the Army's supplier. Despite all having a requirement for RPMA services, none is viewed as an expert in the real property field.

USACE is the only MACOM providing life-cycle RPMA and world-class engineering and technical services to the Army, as a matter of primary mission, not an additional duty. Despite the fact that RPMA is located wherever our installations are, the core competency enveloping the RPMA business rests with USACE. Not unlike AMC's supplying the entire Army's materiel needs, regardless of command, USACE provides the entire Army with comprehensive life-cycle RPMA services, regardless of command. In short, Installation Commanders are USACE customers.

Recognizing that USACE has a core competency of RPMA and that USACE is a vital player in sustaining the Army infrastructure is key to understanding the next part in how USACE is relevant to the Army. We know that our environment is changing and that the leadership is searching for innovative methods to achieve reductions in people, costs, property and risk, while retaining some sort of control in the final solution. What vehicle can USACE, as the Army provider, offer to address these pressing issues facing our customers? Create a customer-driven, full-service, entrepreneurial RPMA organization, located at the installation, that is comprised of installation, USACE and contractor people balanced to suit the needs of the Installation Commander and the regional federal agencies. This



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organization will operate unlike anything we are doing today.

This seamless Public Works Service Center (PWSC) is a hybrid organization composed of installation, USACE and private sector people providing reimbursable support without the burden of complex, costly commercial activity contracts. By sharing internal controls for all RPMA service delivery over \$2,500, Installation Commanders reduce costs, retain core competencies, take advantage of economies of scale, and simplify RPMA service contract execution.

The PWSC reduces current installation delivery costs by a minimum of 20 percent while initially retaining 60-70 percent of the installation civilian workforce. The net result is reduction of costs while retaining optimum control for the Garrison or Installation Commander; consolidation of duplicate fulltime equivalent (FTE) personnel; elimination of duplicate internal control processes; and incorporation of automated systems for project management, cost accounting, time and attendance, asset accounting, review and analysis, quality assurance, planning and programming.

In addition, the PWSC retains critical RPMA acquisition skills for the Federal Acquisition Regulation (FAR) base necessary to meet current and future needs.

The PWSC is an entrepreneurial, turn-key RPMA delivery system offered to Installation Commanders, providing them with an option to retain control of all RPMA services while reducing overall operational costs. The regional propensity of this project-funded organization reduces costs both to the military community and to other federal agencies. The PWSC provides services to not only the installation commander but also to other regional federal agen-

This reimbursable business process, available now, is the entrepreneurial link that enables the PWSC to share RPMA economy of scale savings. Never before in the history of federal acquisition-regulated procurement has a government agency been structured in this manner. This ability to service multiple agencies is revolutionary and establishes a highly competitive foundation for all future commercial activity studies. PWD

Lee Conley works at the Reinvention Center for Installation Support.

ustomer collocation began as a test but has rapidly developed into a "one engineer team" relationship for the 104th ASG and the Corps of Engineers Europe District.

On 30 September 1997, the 104th ASG and Europe District commanders co-signed a Direct Support District MOA that formalizes and expands the concept of Corps/DPW collocation. It spells out responsibilities, standards of timeliness, levels of service, workload parameters and fees.

Under the agreement, Europe District will enhance it services to the 104th—USAREUR's largest Area Support Group—by expanding the Corps' collocated capability within the DPW. The District will collocate a three-person Program Management Office at the DPW to manage its workload within the ASG and assign high priority to urgent 104th requirements.

The Program Management Office will include a GS-13 program manager, a project manager and a program analyst to provide financial accountability. The DPW will provide letter input to the performance appraisal of the program manager. In return, the ASG Commander agreed to rely extensively

Europe District and 104th DPW launch Direct Support District MOA

by Torrie McAllister

on the Corps for engineering, design, contracting and construction support. The District will accept all work offered by the DPW regardless of project size.

The MOA is a natural outgrowth of the team work that has developed during the past two years through the collocation—first of the District's construction project office; then of a project manager. It gives the ASG the option to request collocated design support based on workload. All collocated managers are the DPW's front-line door to the Corps. They funnel the hands-on work to appropriate project management teams at the District headquarters.

"Collocation began as our response to customers" requests that we "walk in the fire with them and feel their customer's heat," Europe District's Deputy Engineer Pat Biliter said. "This MOA creates a partnering environment in which the DPW and the Corps recognize each other's needs and capabilities

and we work together toward a common goal."

Last year, the Corps' collocated project manager Dana Luedtke quickly became 104th ASG DPW LTC John Ramey's trusted program manager who helped him effectively tap the

Corps to supplement his dwindling inhouse staff. He wanted to enhance his ability to entrust workload to the Corps based on ASG priorities.

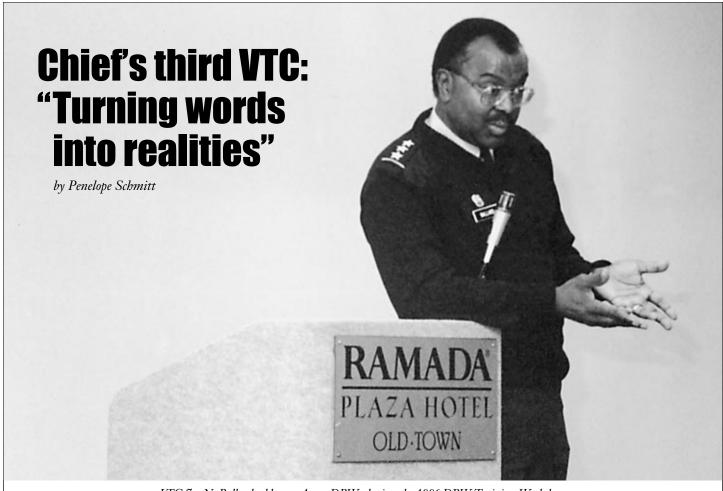
"Under our MOA, Europe District is committed to a total life-cycle base maintenance partnership with the ASG," LTC Ramey says. "I want a Corps' operations cell at my elbow with a senior engineer who helps me work programs and customers. I want the same team responsible for managing pre-award, construction and financial management issues so I'm not spending my time chasing action officers in the District."

This MOA explores new territory for Europe District and our efforts to reinvent installation support. It has become the template for discussions on further initiatives with other ASGs. PWD

Torrie McAllister is the Public Affairs Officer for Europe District.



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LTG Joe N. Ballard addresses Army DPWs during the 1996 DPW Training Workshop.

e are rapidly turning words into realities," said LTG Joe N. Ballard, Chief of Engineers, in opening the October videoteleconference with Directors of Public Works. Ballard cited three recent initiatives by Corps activities:

- Rock Island Arsenal/ Rock Island District collocation and cooperation in carrying out DPW activities went on line October 1, 1997 (see articles on pp. 14-16).
- Huntsville Engineering and Support Center launched an Energy Savings Performance Contract worth \$1.1 billion that will enable installations to cut energy costs without heavy front end investment.

 Fort Worth Reinvention Center for District Support successfully put a host of services on line that drove down DPW costs and successfully executed more than \$40 million in IDIQ delivery orders.

"I was at Redstone Arsenal last week," the Chief reported. "I can see for myself that the MACOM engineers, the DPWs, and the ACSIM are all continuing to do a super job. We are better at communication. The commitment we made last December to make the Army better is coming to life."

The teleconference included participants from a number of small MACOMs, who came on line with questions for both the Chief of Engineers and for MG David Whaley, the Assistant Chief of Staff for Installation Management.

Issues raised by DPWs included:

Utilities Privatization—"you gotta get out!": Installations continue to question the push to privatize utilities. MG Whaley repeatedly emphasized that this move is inevitable for the Army. While today's numbers may tell a DPW it costs more to privatize than stay in business, the truth is that there is just no future in hanging on to utilities. "Fifteen year replacement and upgrade money will not be there," he said. "You gotta get out!"

Kevin McCulla, of the Army Power Procurement Directorate at CPW, reassured DPWs concerned about outsourcing in an increasingly competitive

Satish Sharma, of the ACSIM, related the good news that



language permitting installations to divest land associated with water and wastewater treatment plants has been included in this year's Defense Authorization Bill.

Barracks Upgrade Program—avoid exceptions. LTG Ballard noted that one installation had been granted a variance from standard design. "We accommodate what makes sense!" he said. However, both he and MG Whaley cautioned installations that redesign and variations cost money and time, and it was important to keep the program on track.

BRAC—no free ride. Several installations involved in BRAC initiatives both praised Corps of Engineers assistance and asked for more. LTG Ballard agreed that the Corps could offer the best in real estate services, but pointed out that the responsibilities for closure and cleanup that lay with MACOMs and installations couldn't be turned over to the Corps. But at an appropriate point in the process, the Corps can help—will be glad to help, Ballard said.

Customers—"I'm gonna shock you." LTG Ballard promised to 'shock' a customer frustrated with the construction process by agreeing with him. "Absolutely! ... We can give you As-Built drawings in AUTOCADD; ... Absolute*ly!* ... We can keep customers closely involved at all design review stages. Absolutely! ... We can be more accountable for problems and changes." Ballard also agreed to consider S&A waivers on work that arose from unplanned design changes not attributable to the customer, and to consider turnkey services more closely. The only thing he couldn't weigh at this time was a request to turn money recovered from contractors back to the installations. "That's determined by Congress," he said.

Subjects covered by Corps, ACSIM leaders included:

MACOM-Installation Program Review. MG Milt Hunter, Director of Military Programs, reported that the initiatives proposed last December for

supporting DPWs were well on track. Collocated operations, the Advocacy program at Headquarters, the VTCs all are in place and working well. Progress continues toward placing fully funded Corps employees at the service of selected installations. The most recent program in place is Hunter's own commitment to visit and review programs with each Major Command, and at the same time touch base with installations involved in the planning. "It is a good opportunity to come out and visit your projects, get to know you and understand your goals," Hunter said.

Reinvention Center reports yearend success. Jim Kelley, of the Fort Worth Reinvention Center for District Support, celebrated a stellar year-end support program. "We engaged in what I call Superbowl Investment," he said. "Most everything in the Fourth Quarter!" That added up to a total of \$40.6 million, or 96 projects executed through IDIQ contracts. Of those, 70 projects, and \$32.1 million happened in the Fourth Quarter—most on the very last day of the fiscal year.

Kelley also promised some new initiatives on the horizon to help hard pressed DPWs. "I know CA studies are placing demands on staff where you are one deep or no deep," he said. "We are testing a way to provide you a program manager to assist the CEAC contractor in doing your CA study. You will be able to continue working while the study goes on, without shrinking your critical staff."

The Public Works Service Center concept, now getting under way at Fort Worth, promises to help installation DPWs with the "white collar" aspect of real property management. "We are doing something like the Rock Island initiative, but with a different spin," Kelley said. "We are hoping to be able to put direct support with you at the working level for contracts, resource management, legal, public affairs, and other types of support you need. We have a proposal at Fort Hood right now. We think we can offer viable value-added services to the DPW this way."

ACSIM reviews efficiency initiatives.

MG Dave Whaley reviewed the major initiatives afoot to improve efficiency within the Army. Commercial Activities (A-76) studies are the most visible to DPWs, he agreed. Also vital are initiatives to reduced leased facilities and lower the cost of central heating plants. The Army is expected to find \$10 Billion in such efficiencies, Whaley said. Those dollars are already cut from the POM for future years. The savings have to happen. With respect to leases, he alerted the DPWs that "we are still in the study phase. We haven't identified anyone to move, and we're not directing any moves yet!" This has to be an orderly process, where the Army can identify the locations of leases and the locations of excess property, then match them up where it makes sense. As for the Commercial Venture Initiative in housing, Whaley emphasized that further moves in that program, especially in Europe, would be awaiting the reports from Fort Carson's initiative, which is still in early stages.

The Chief ended by encouraging participants to discuss the issues raised at this third VTC at the upcoming DPW Training Workshop in December.

Penelope Schmitt is the Chief of CPW's DPW Liaison Office.

1997 DPW Training Workshop

The 1997 DPW Training Workshop will take place 9-11 December at the Tysons Corner Sheraton Premiere Hotel in Vienna, Virginia. For more information, please contact Tom Cook at (703) 428-6036 DSN 328 or e-mail: tom.e.cook@cpw01.usace.army.mil



ithin its 950 acres, Rock Island Arsenal offers many of the DPW challenges found on much larger installations, and a few that are unique.

"We have some of the most unusual properties the Army owns, and some of the most demanding historical structures in the whole Federal government" said Jerry Sechser.

Much of the Arsenal is a National Historical District. For example, Quarters One, the home of the Commander, is a 20,000 square-foot building second in size only to the White House among federallyowned residences. "Of course much of it has been closed off and isn't in current use, but the building is a magnificent historic structure, and continues to require maintenance." Many of the other 50-plus quarters on the island are also historic-and much bigger than average.

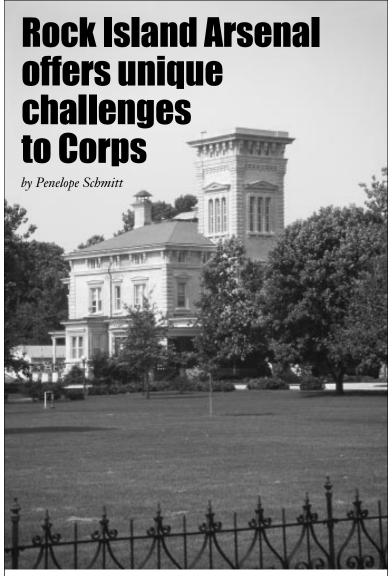
"We have many limestone factory buildings here," Sechser said. "They all had wooden window frames, which are now aging and rotting after well

over 100 years of use. We would like to be able to replace them with aluminum frames that appear compatible with the buildings, but will last longer. The state historical society would rather we replace them with wood. That is a continuing management issue, and we will be working with the Corps natural and cultural resources folks on this for quite a while."

"This installation has the Army's only active foundry. We also have a plating facility. Both require close environmental

During the Civil War, Confederate soldiers were held prisoner on the Arsenal. Some 380 died here of illness and malnutrition. A carefully maintained Confederate Cemetery is part of the historic heritage of the island.

A National Cemetery is also located here. "We have been asked to allow expansion of the National Cemetery," Sechser said. "There are differing opinions about this. We need to look carefully at the Installation Master Plan and ask our-



Quarters One is second only to the White House in size. This historic structure and others on Rock Island Arsenal present special challenges.

selves—do we really have plans for new facilities or growth in this area?"

The Arsenal has recently acquired two major new tenant organizations—Defense Finance and Accounting System (DFAS) and Civilian Personnel Operations Center (CPOC). "It will be a challenge to meet the needs of these new tenants, both of whom are adjusting to newly reorganized missions," Sechser said. "The good news is, we have room, fine facilities, and a great community. Frankly, we are anxious to attract new tenants to the installation. We hope the Corps will help us to accomplish that goal. Our tenants are also eager to work with us to attract new neighbors, since their rent is based on occupied space. They will pay less if more tenants come to share the overall expenses of running the installation."

The Arsenal's unique mid-river location brings some unusual benefits with it. The island is served by its own hydropower facility. "Our electrical power costs are about one-third those of most in-

stallations," Sechser said.

"We also own and operate a swing bridge that accommodates river traffic. It carries both rail and vehicle traffic on two decks. Though we have been urged to consider divesting ourselves of this bridge, the fact is that the state doesn't want it, the city doesn't want it—nobody wants to own it!"

The installation is home to another unique entity: The Rock Island Arsenal Country Club. The 150 acres that form the golf club were first leased by private citizens in the surrounding communities. "William Howard Taft signed the first lease," Sechser said. "Ever since, we have leased that property to the club, and they have taken full responsibility for building, improving and maintaining it. Today, the installation receives about \$65,000 for the property each year. The NAF folks would like to be able to take it over, but then we would find ourselves using OMA funds to help keep it up. We have several feet of complex lease renewal files." PWD



n mid-September, 30 Rock Island District staff members received a "crash course" in the basics of Directorate of Public Works Management. The two-and-a-half-day course, taught by the Army Center for Public Works, covered the basics of DPW organization, work management, automated systems, review and analysis, funding, and installation relationships.

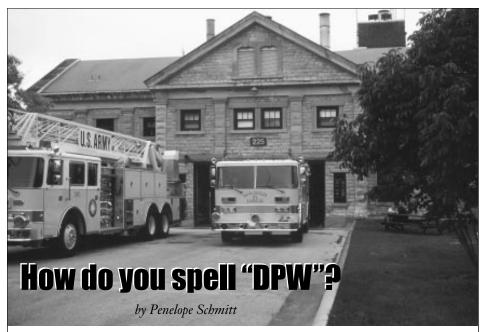
Participants also received an initiation into the mysteries of J, K, L, & M accounts, the pitfalls of work classification issues, untangling the path of IJOs, SOs, and SOOs, and the hierarchy of dollar approval limits for construction and repair.

Johann Greico, of CPW, even introduced class members to the magic and tragic moments that make or break a reputation for customer service.

Doug McCully, Deputy District Engineer for Program Management, commented: "You people sure use a lot of acronyms and numbers!"

"And before a year is up, you will know them all!" said Pete Sabo, Director of Facilities Management at the Center for Public Works.

Rock Island Arsenal staff members also participated in the class, turning a local microscope on the broader view



When Rock Island Arsenal fire trucks answered an emergency call, Corps class members got a "hands-on" lesson in DPW emergency responsiveness. (See story below.)

presented by CPW instructors Johann Greico and Dennis Milsten. Here are a few of the ways general principals led to discussions of local practice—and back to the big picture.

✓ **Contracting:** Jerry Sechser, of the Arsenal's DPW, commented that

the Corps' Army Contracting Officer (ACO) method for administering contracts, was an approach he looked forward to having.

"But that's only on construction contracts," said Dan Holmes, the district coordinator.

During the second morning of training, fire alarms blared in building 350 on Rock Island Arsenal. Students and instructors filed out of their classroom into a hall-way smelling strongly of sulfur. Outdoors, two fire trucks and a rescue vehicle had pulled up. Rescue workers were hunched over a woman who sat on the steps, overcome by the chemical odor.

As the minutes wore on, Jerry Sechser and the DPW Fire Chief reappeared on the scene. No one in the class had taken much notice when both had slipped out in response to a beeper call a few moments before the alarm. John Ruble, the DPW, arrived. He talked with the Commander, keeping him informed of conditions inside.

The Post Public Affairs Officer appeared, flanked by a cameraman from a local TV outlet. Sechser and Denise Tyler, the Rock Island District's Public

Alarm sets off real-time DPW exercise

Affairs Officer, explained the situation to them.

Electrical contractors arrived on the scene. Firemen in gear escorted them into the building.

The problem? Overflowing sulfuric acid from batteries in a computer room had sent gas fumes through the building's ventilation system. Within an hour, the problem was under control and students returned indoors.

For the DPW Management Class, the lessons had just begun. District personnel closely questioned Sechser and the Fire Chief about their procedures for such incidents.

"Who calls in the problem to safety? to the DPW? to the installation police?"

Sechser indicated his work order staff. "Val and Cindy make all those

calls. They have a very busy time for the first ten or fifteen minutes."

"We have to be really ready to work with the installation public affairs office on these incidents!" said Denise Tyler.

"You noticed the DPW was right there with the Commander?" said Milsten. "That will be a very important public relations responsibility for you. The District Engineer or Deputy will have to come out and be with the Commander when things like this happen. In the past, they have been in a command to subordinate relationship with the person responsible. They are going to still want you to be there, to respond to them."

"This is very rapid response,' said Dale Rossmiller "but we have experience in things like that. Look at how fast we react when a barge rams a lock gate out on the river. We can be responsive!"



"I think we can apply for a waiver so that we can have ACOs on service contracts," said the District's attorney.

"There's precedent for that," Dennis Milsten said, explaining that other districts had been able to use the ACO approach with service contracts in the past.

✓ Automated systems: Rock Island Arsenal does not use IFS-M, the Army's most common system for managing work and real property record keeping. Still, the class presentation on IFS-M led to a lively discussion of the merits of the Arsenal's current systems, the potential for using the Executive Information System, an introduction to CEFMS (the Corps' Financial Management System), and a point-by-point comparison of Rock Island District systems with Arsenal systems. As a result, everyone developed a clearer understanding of ways to "talk" via their computer networks.

✓ **JOC:** Corps staff, generally expert in the contracting field, learned a trick or two about making the best use of Job Order Contracting capabilities. Milsten shared the experiences of other installations, who have learned to promote accurate bidding and good performance by accepting bids from two or more contractors based on the same solicitation, keeping the minimums low to moderate, and having the ability to drop poor performers and keep good performers when option years arrive.

At the end of the intensive session, class members agreed that the class was worthwhile, but they admitted that much of the DPW business was still an unknown to them. "On one hand, I wish I could have had this two months ago," said Harlan Briggs or Construction Division. "On the other hand, I'm glad that it's close to implementation time, so I will have as much as possible in my memory. One thing is for sure, I think you should come back in six months and let us look at this again."

Dan Holmes and others urged that more members of the local DPW staff attend similar presentations at other installations. "It comes together and make sense more when you can talk about how the general concepts play out on the local installation," Holmes said.

"Don't worry about the things that don't apply right here, right now, though," said Dale Rossmiller. "We may wind up serving other installations that use IFS-M, for example. We need to know as much as we can about all DPW operations."

Rock Island District becomes a DPW

by Penelope Schmitt

They're about to put on the other guy's moccasins in Rock Island District—the ones the DPW wears. On 1 October 1997, the historically Civil Works-oriented District will take operational control of the Directorate of Public Works for Rock Island Arsenal.

The initiative is a product of the Army's Construct Functional Area Assessment (FAA). Its goal? To see if the

Corps of Engineers can offer the Army efficiencies, cut down on duplication of effort, and discover new economies of scale by providing full-service DPW operations for an installation or group of installations.

"We aren't doing this without help," emphasized Dale Rossmiller, Chief of Design Branch, Rock Island District (RID) and member of the implementation team. "I worked on the FAA. We are getting great support from George Braun and the HQUSACE Military Programs folks to get this effort off the ground."

In the initial phases, the Corps is supporting the District by providing:



The Clock Tower building was the first major structure built by the Army on Arsenal Island. It has long been home to the Corps' Rock Island District.

- Financial support to procure basic computer equipment that will let the district and Rock Island Arsenal communicate seamlessly.
- Full-time-equivalent spaces to allow test measurement and evaluation to be done without straining District or Arsenal personnel resources during the test period.
- Training to familiarize District staff

with the intricacies of DPW operations.

Although Louisville District is the Arsenal's designated military support district, the Corps' new strategy to collocate support with the installation made Rock Island District the logical choice. The district's offices, in the historic Clock Tower Building, are located

on a 6.9-acre Corps-held property on Arsenal Island. The DPW's offices are only a few blocks away.

"Due to our geographical proximity, we have been doing work for the Arsenal, brokered by Louisville District, since 1981," Rossmiller said. Louisville District's resident office located on the Arsenal will continue to provide support during the test under the terms of a recently expanded agreement between the two districts.

"Even close as we are, we have to take added steps to make sure that we are completely networked," said Dan Holmes, the District's coordinator for the effort. "We plan to have

LAN linkages. We are matching our systems so that all can talk to one another easily."

What happens to the DPW's current staff during the test process? "We will work under the 'Operational Control' of the District," Jerry Sechser explained. "We have fewer than 50 people left on our staff now. All of them will continue to be on the



Arsenal's TDA, to be paid through the Arsenal's payrolls. However, for all operational purposes, we will be working as Rock Island District staff."

"That's the beauty of this effort," Dale Rossmiller said. "It's a real win/win, because the Arsenal staff bring us all their expertise, and we can back them up with our resources and capabilities, working together as one. It's not a question of either the Arsenal or the District trying to do more with less, but both of us doing more with a little

For the first year of the test, all members of the partnership will be feeling their way, since completely District-run DPW operations are a new concept. During the second year of the test, when the learning curve and the unexpected glitches have been dealt with, the evaluation will take place.

"The FAA participants saw this as an option with great potential," Rossmiller said. "They want to give it as strong a chance to work as possible. At the same time, we have structured the test so that it is possible for all of us to retreat to our original roles if that's what the results tell us to do."

Do the partners think that will happen? On the contrary, optimism about the test is high. "I am really looking forward to having the Corps' engineering expertise," Sechser said. "We have been a fully contracted operation for about eleven years, and it has been a struggle to get things right. We are making progress, but much more is needed. The Corps' special abilities to administer contracts with an engineering and Operations & Maintenance component—that's what I am most looking forward to."

Other duties the Corps will be participating in include:

- Planning and real property management.
- Small purchase actions.
- Natural and Cultural resources management.
- Historic district and Historic housing management.
- Contracting and contract administration.
- Operations, maintenance and repair
- Fire protection and prevention ser-

"If the test proves successful, and we are optimistic it will, then the District will become even more fully involved," Rossmiller said. "For example, we would be looking to move DPW administration more into CEFMS (Corps of Engineers Financial Management System) for doing fiscal transactions.

The cadre of Arsenal employees would become more officially a part of our staff, and so on. We would also be looking to perform these same functions for other nearby installations, and thus achieving some regional efficiencies." PWD

More on the Facility Reduction Program

by Greg Brewer

he FY 97 Facility Reduction Program (FRP) has been extremely successful. The goal of disposing of 2.0 million square feet was more than doubled. It is no time to relax now. HQDA has set aside \$104 million for FY 98 for facility reduction and approximately \$100 million each year of POM 99-03, with a goal of disposing of an additional 53.0 million square feet. Beginning with FY 98, no resources are programmed to support excess facilities. This makes the disposal of excess facilities critical.

Based on the reduction plans submitted for FY 98, disposal of an estimated additional 13.5 million square feet will occur. These plans indicate how aggressively MACOM commanders are attacking the excess facilities issue. The FY 98 distribution of funds has been determined. MA-COMs will be notified of their allocation under separate cover. Funds will be distributed in first quarter FY 98. Unless specific ACSIM guidance to the contrary is provided, funding is to be used for disposal only. Renovation and relocation costs remain a MACOM/installation responsibility. Funding applies only to facilities supported by OMA, RDT&E, OMAR or OMNG appropriations.

Because OSD will be managing facility reduction by specific building, square footage and investment category code, MACOMs will be required to submit progress reports including this data. Progress reports will be submitted every 90 days using an electronic spreadsheet provided by HQDA. MACOMs should verify or correct spreadsheet information prefilled by HQDA. Updates will be used to satisfy OSD reporting requirements and status of MACOM FRP execution. The status of facility disposal as recorded in the Integrated Facilities System (IFS) semi-annual database updates will be compared with the progress reports to verify program execution. MACOMs will also be asked to prepare five year facility reduction plan from which HQDA can develop and manage a comprehensive FRP to support future budget requests. Additional instructions for preparing these plans will be provided in the near future.

The U.S. Army Center for Public Works (CPW) has established a contract for facility disposal in the contiguous 48 states, at a cost of \$10.50 per square foot. This is a favorable price; therefore, FY98 FRP disposal costs submitted that were higher than that, have been reduced to \$10.50 to maximize square footage disposal. The contract deals with lead-base paint and asbestos abatement, but covers demolition of facilities as well. The \$10.50 does not include any hazardous material abatement. To utilize this contract, please contact Fidel Rodriguez of Charles Racine at DSN 656-5025/5957 or commercial (703) 806-5025/5979.

Due to a reorganization in responsibilities within the Assistant Chief of Staff for Installation Management, Greg Brewer, DAIM-MD, will now be managing the Facilities Reduction Program. He can be reached at DSN 223-4583 or commercial (703) 693-4583. PWD



Corps-Arsenal partnership covers public works functions

by Paul Levesque

ock Island Arsenal (RIA) and the Rock Island District of the U.S. Army Corps of Engineers have joined in a partnership that is the first, but probably not the last, of its kind in the Army.

Under the partnership, the Rock Island District will take over the day-today operation of most of the functions now performed by RIA's Directorate of Public Works. The Arsenal commander will retain responsibility for planning, programming, budgeting, funding and setting priorities for public works requirements on the installation.

The partnership officially took effect on October 1 and will continue on a test basis through fiscal years 1998 and 1999. At the conclusion of the test, the move of PW functions to the Corps could become permanent.

The success or failure of the test will be tracked very closely by the Department of the Army, which is considering the idea of turning public works functions at all Army installations over to the Corps of Engineers.

That idea has its practical roots in the reality of downsizing and its theoretical roots in the Force XXI modernization initiative, which calls for reengineering the support base. The Army Materiel Command (AMC) was given the lead on testing the idea; AMC then chose the Arsenal as a test site.

While two other installations are testing public works partnerships on a limited basis, RIA can claim to be the only installation testing a full partnership with the Corps.

In remarks delivered at a ceremony marking the partnership, Rock Island District commander COL James Mudd described it as a "brave effort" that would require a lot of trust and cooperation on both sides.

"I believe this partnership has a really good chance to succeed," COL Mudd said, "because of the hard work and dedicated effort of the people involved in it."

RIA commander COL Steven Roop admitted that he was skeptical about the partnership at first but agreed to it when he realized its implications for the future of the Arsenal and the Army.

"This is our chance to be part of setting a new policy, rather than reacting to a policy imposed on us," COL Roop remarked.

Dan Holmes of the Rock Island District, who is serving as the District's primary liaison with the Arsenal, said that the partnership shared similarities with the consolidation efforts that led to the formation of organizations such as the Civilian Personnel Operations Center and the Defense Finance and Accounting Service.

"Unlike CPOC and DFAS, which are new organizations, the Corps was already here," Holmes said. "But this partnership allows us to consolidate certain engineering functions into one organization, with the goal of achieving efficiencies and improving services."

According to Holmes, the Rock Island District performs nearly all of the functions that are performed by the Public Works Directorate. These functions include management, contract oversight and engineering support in areas such as the construction, renovation and repair of buildings, roads, grounds and other real property assets; utilities; snow removal; environmental compliance; historic preservation; janitorial services; and pest control.

"We already do all those things," Holmes said, "and now we will do them at the Arsenal as well as at other sites in the District."

Holmes stressed that Arsenal was not ceding control of public works and would still make management decisions and set priorities in the PW arena.

"In general terms, the Arsenal commander will decide what needs to be done, will set priorities on when it should be done, and will provide the necessary funding," Holmes said. "The Corps will then have the functional responsibility of carrying out those decisions."

At the time the partnership was formed, the Directorate of Public Works had about 70 employees on board. Nearly 90 percent of them have been detailed to the Rock Island District, where they will work in a separate project office under the District's Operations Division.

The other former PW employees will be assigned to a public works cell within the proposed Base Operations Directorate, where they will carry out the management and oversight functions retained by RIA.

No employees were displaced from their jobs as a result of the partnership. In fact, as former PW director John Ruble pointed out, the vast majority of detailed employees are still performing the same jobs they did before, are still at their old desks, and still have the same telephone numbers and e-mail ad-

"We wanted to complete the transition with a minimum of disruption," Ruble said, "and we wanted to make it transparent to our customers."

During and after the test, audits will be conducted to determine whether or not the partnership is generating the cost savings which have been projected. Holmes said that the results of the audits would be read with interest at the AMC and DA levels and would be crucial in determining the future of the partnership.

But Holmes added that the partnership's ultimate test would come in how it is received by customers.

"If the people at the Arsenal are happy with the services they receive," he concluded, "then we'll know that we've succeeded." PWD

Paul Levesque is a public affairs specialist at the Rock Island Arsenal Public Affairs Office.



Grand opening held for stateof-the-art postal facility on Rhein Main

by Marnah Woken

f you think you handle a lot of paper, imagine handling 40 tons of paper every day! And that's just during the slow season.

Soon to be the central distribution center for all military mail in Europe, the newly renovated Frankfurt Aerial Mail Terminal on Rhein Main Air Base is about to make military mail history!

"From a military mail standpoint this is it!" said Vernon Yowell, Operations Officer for the facility. "This is



State-of-the-art wooden tilt trays and bins are used to sort mail at the newly renovated Frankfurt Aerial Mail Terminal on Rhein Main Air Base. (Photo by Marnah Woken)



Vernon Yowell, Frankfurt Aerial Mail Terminal Operations Officer, looks on as the new sorting system is installed. (Photo by Marnah Woken)

state-of-the-art. It's the largest military postal facility in the Department of Defense and the best thing that's happened to the mail business in 35 years."

The facility houses a state-of-the-art sorting system comprised of wooden tilt trays for noise reduction. The trays move on a conveyor belt, dropping the

mail into one of 32 bins.

"With this new system, the sorting is done automatically so there's a lot less physical labor involved," explained Yowell.
"Because of this new system, my employees won't have to stop dock loading to sort the mail. It's really going to save a lot of time."

Along with a state-of-the-art sorting system, the new facility utilizes a computerized mail tracking system.

"We're connected to the U.S. through a computerized airmail distribution system," explained Yowell. "The bags are bar-coded for tracking. We'll be able to know exactly when they left the U.S."

"We process 40 tons of mail per day, which doubles during the holidays and contingency operations," added Yowell. "So this new system is going to be a tremendous improvement in the way we do business."

The Air Force contracted the U.S. Army Corps of Engineers, Europe District to complete the renovation project.

This was a major renovation, said Lalit Wadhwa, Chief of Fa-

cilities Engineering Support Branch, Engineering Division at the Corps.

Europe District provided the concept, design and supervisory inspections of the entire facility renovation.

He added the Corps hired a general contractor to complete the work, which included asbestos abatement, roof repair, installing a break room, renovating toilets, installing a secure registered mail area, replacing the exterior metal shell, as well as upgrading the parking lot and surface drainage system.

Other work on the project included the installation of service opening mail chutes, an oil-fired heating system with chimney, a transformer station, an electrical lighting system, and automatic roll-up doors.

The \$2.4 million construction project was completed with zero cost growth, according to Wadhwa, who added the work was completed with no time delays.

"The construction work took five and a half months to complete," said Wadhwa. "The total project took twelve months to complete — from the time the customer walked in the door with the design requirement to the final completion of the facility."

"We were always in close contact with the customer's needs," added Wadhwa. "This resulted in an exceptional quality design project." (A grand opening ceremony was held for the facility on October 6.)

Marnah Woken is a public affairs specialist in the Europe District Public Affairs Office.

Refficsagmanu

Introducing the pharmacy concept

by Cris Sawyer

here is a way to stop hazardous material excess stockpiles and consolidate the effort needed to dispose of hazardous waste on your installation. If you like the sound of this, maybe you should have your logistics and environmental personnel look into the pharmacy concept." Yes, the HAZMAT pharmacy is the way to go. It is working at Fort Campbell, Kentucky, and Pine Bluff Arsenal, Arkansas, to name a few installations, and it may work for you. Granted, there will be changes that have to be instituted, but the savings and seamless continuity in hazardous material control is worth the extra work.

The HAZMAT pharmacy concept consists of the interaction between many departments and the use of a few monitoring systems. A team concept must be developed between the DPW, military units, DOL, contractors and tenants. The commander of the installation must be supportive and set goals that eventually encompass everyone participating in the program.

The HAZMAT pharmacy, also referred to as the Hazardous Material Control Center (HMCC), controls many aspects of the material program. Some of the areas where it can help an installation include:

- Product substitutions.
- Shelf-life management.
- Military unit deployments.

Soldiers will also have a significant increase in productive time, because they will not be required to process, transport or procure their hazardous waste or materials. The pharmacy personnel will pick-up and deliver hazardous waste and material on a daily basis. By setting up an HMCC as a central distribution point, an installation can monitor and track hazardous substances from the time they arrive on the installation through their

use, release and disposal. All departments receive their hazardous material from the HMCC. Departments also return unused hazardous materials, report any release to the environment and report all hazardous waste disposal amounts to the HMCC.

Many Centers use the Hazardous Substance Management System (HSMS), which is the Defense Department's standard automated tool for tracking hazardous substances. HSMS allows Army installations to monitor the procurement, use, release and disposal of all hazardous substances. It also helps installations cut environmental reporting costs, reduce hazardous material inventories, prevent pollution and integrate smart business practices into HAZMAT management.

The HSMS benefits the installation by controlling hazardous material/waste and assists in meeting reporting requirements such as The Emergency Planning and Community Right to Know Act (EPCRA) and the Pollution Prevention Act (PPA).

With the pharmacy program, as with any program, funds are needed to get the system implemented. The difference with this system is the savings you will have in the following areas:

- Excess inventory.
- Requisition cost avoidance.
- Waste disposal cost avoidance.
- Fine avoidance (compliance).

Most installations already have hazardous waste and material disposal budgets, and in the long run, it would make sense to spend a little more now so we can save a lot later. For further assistance, please call Cris Sawyer, CECPW-ES, (703) 806-5206 DSN 656.

Cris Sawyer works in CPW's Sanitary and Chemical Division.

Lab testing insufficient for process control

very Army wastewater treatment plant with a National Pollutant Discharge Elimination System (NPDES) permit conducts some basic laboratory analysis to comply with permit requirements. However, the basic tests required by regulatory agencies do not give enough information to effectively evaluate a treatment plant.

The basic testing only gives "Black Box" results. That is, it provides information on what is coming into the plant and what is going out, but does not provide information on what is going on within the treatment system.

Another problem with the tests required by regulatory agencies is that the Biochemical Oxygen Demand (BOD), which is the principal test to determine the organic strength of waste in the water, requires five days to complete. The test is difficult to use as a daily operational tool unless the influent BOD remains fairly constant. Due to the potential for changes in BOD levels, operators cannot measure the BOD and base their operational adjustments on the test results because they will not be available for five days. This delay allows operating problems to go undetected, creating a possible violation of the NPDES permit.

To effectively evaluate a wastewater treatment plant, laboratory tests need to be performed on samples collected from intermediate points throughout the plant, and not just from the plant influent and effluent streams. To identify specific problem areas within a plant, periodic laboratory testing must be conducted at the influent and effluent of individual unit processes. This process is sometimes referred to as intra-plant sampling for process control and requires an in-depth plant evaluation to effectively identify specific tests required for each plant process.



Also, many plants would benefit from conducting Chemical Oxygen Demand (COD) along with their BOD analysis. The COD test is much quicker (it can be accomplished in several hours) and after several months, a relationship between COD and BOD can be determined.

These findings are some of the lessons learned from implementing the Operator Assistance Program (OAP) managed by the U.S. Army Center for Public Works. The OAP is implemented in three phases to improve plant performance and environmental compliance. Phase I is a comprehensive diagnostic treatment process evaluation to identify operational and/or design deficiencies. A site specific Operational and Maintenance (O&M) manual is prepared and training is provided during Phase II. A follow-up plant performance evaluation is conducted as Phase III to assess the effectiveness of the recommendations implemented after the initial evaluation.

The OAP uses reimbursable funds to operate. Assistance is provided by use of Indefinite Delivery Type (IDT) Architect Engineer (AE) contracts. All the work is performed by an AE with oversight responsibility provided by CPW. The costs for contract procurement, travel, and AE services are funded by the installation requesting the service.

POC is Gregory R. Jones, CECPW-ES, (703) 806-5208 DSN 656

Submit your articles and photographs to the **Public Works Digest**

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Carbon monoxide detectors not a cure-all

by 70hn Lanzarone

arbon monoxide (CO) is an odorless, colorless gas that can cause sickness and death. Sources of CO include any appliance where combustion occurs, such as furnaces, water heaters, ovens and ranges. Attached

garages can also be a source (when a car is left running). Many localities now have ordinances that require CO detectors in residences, much like fire detectors. Initial versions of CO detectors were plagued by high false alarm

rates. A

study con-

ducted by the

Gas Research Insti-

tute (GRI) collected data on CO alarm calls in Chicago during 1994 and 1995. That study found that most CO alarm calls were at very low CO concentration levels, often at levels equal to outdoor air levels. These findings, along with the publicity concerning the nuisance alarms, led to a revision of UL standard 2034 aimed at reducing nuisance alarms. CO detectors manufactured after October 1995 had to meet the revised UL 2034 Standard.

In spite of the revised UL Standard, concerns continue about the occurrence of nuisance alarms. This led GRI to sponsor a program where a large number of detectors would be tested in the field. It was hoped that the study would provide information about the longterm stability of the detectors and general field performance. Ninety-six detectors, 24 units of each of four manufacturers, were purchased and installed in a research house.

Unfortunately, the results of this second GRI study showed a high percentage of CO detectors intended for residential use fail to operate properly. Overall, one out of 15 to one out of three units, depending on brand, will fail to alarm as required by UL Standard 2034. Also, and maybe of greater significance, is that CO detectors seem to be adversely affected by low humidity levels, causing the units to alarm at higher levels or not at all.

CO deaths tend to be higher during cold weather. This follows as more heat is required and the heating unit (a source of CO) is running more. When it is cold outside and air is heated in a residence, the relative humidity (Rh) in the residence may drop to very low levels. An indoor winter Rh of 20 percent is not uncommon. Unfortunately, the standard rating condition under UL Standard 2034 is 50 percent Rh (± 20%). Thus, during the winter, when the CO detector may be most critical, it may be least likely to function properly if at all.

While industry and UL will no doubt address the results of the GRI study and improve the accuracy of CO detectors, that doesn't solve the problem where CO detectors are already installed.

There are two important lessons to learn from this study. First, consumers/ residents must be properly educated about the hazards and sources of CO. Secondly, appliances (stoves, ovens) and vents (furnace, water heater), need to be inspected periodically to ensure CO emissions are minimized and that the devices are properly vented. Don't be led into a false sense of security just because CO detectors are installed.

🏶 POC is John Lanzarone, CECPW-EM, (703) 806-6067 DSN

John Lanzarone is a mechanical engineer in the Mechanical & Energy Division of CPW's Engineering Directorate.

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stitute or imply its endorsement,

he Mechanical & Energy Division of the U.S. Army Center for Public Works has a number of videotapes available for loan to installations. The subject matter of the tapes spans the subjects of energy conservation to O&M issues.

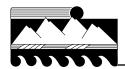
To request a loan, please contact John Lanzarone at (703) 806-6067, DSN: 656, or FAX: (703) 806-5220, e-mail address: john.r.lanzarone@cpw01.usace. army.mil. Provide the name, mailing address, phone and fax number of the person requesting the loan and an alternate point of contact. Most tapes will be loaned for 4-6 weeks although time extensions will be considered.

Rent tapes from CPW Video Library

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NAME OF VIDEO PLAYING TIME Boiler Operation Waterside.....20 Minutes Boiler Operation Fireside..... Coupling Alignment..... Joining Plastic Pipes Steam Trap Theory and Repair......Unlisted



Regional Environmental Offices—providing value added

by Mike Flannery

wo years ago this September, the U.S. Army Environmental Center (USAEC) opened its four new Regional Environmental Offices (REOs) to provide coordination of the Army's environmental program with the regulatory community at the state and regional level and cross feed environmental program activities with the Navy (to include the Marine Corps), the Air Force and the Defense Logistics Agency.

The Assistant Chief of Staff for Installation Management (ACSIM) established the REOs in the face of downsizing, to accomplish better communication of complex and demanding environmental requirements in support of both Active and Reserve Components of the Army. Primarily, the REOs communicate with the state environmental departments regarding enforcement of most environmental programs at that level. The REOs also aim their coordination efforts at the 10 U.S. Environmental Protection Agency (EPA) Regions each with differing geographical interests.

The Army established and located the four REOs based on the four standard federal regions for which the Army has executive agent responsibility. The Navy and Air Force each have Executive Agent responsibility in the remaining federal regions. USAEC determined the various locations of the REOs based on several considerations, one of them being the distribution of active Army installations.

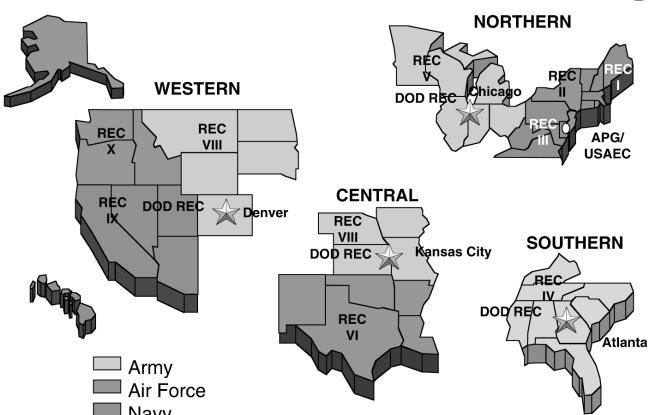
The Regional Environmental Offices, their area of responsibility and DoD Responsibility are as follows:

- Northern REO at Aberdeen Proving Ground, MD — Army Coordination for Regions I, II, III and V with DoD lead in Region V.
- Southern REO in Atlanta, GA Army Coordination and DoD lead for Region IV.



Army Regional Environmental Offices







- Central REO in Kansas City, MO Army Coordination for Regions VI and VII with DoD lead for Region
- Western REO in Denver, CO Army Coordination for Regions VIII, IX and X with DoD lead for Region VIII.

The DoD responsibility of each office comes into play when there is an environmental regulatory issue of concern to two or more of the services in that Region. Each of the Army REOs forwards a semi-annual report on such activities through Army channels to

DUSD(ES) describing coordination activities accomplished among the services, key issues and environmental success stories.

The majority of the REOs' efforts involves Army installation environmental coordination activities, to include the Army Reserve Regional Support Commands (also organized along Federal standard region boundaries) and the Army National Guard for each of the states. The REOs exercise care not to infringe upon chain of command prerogatives of the major Army commands (MA-COMs), and ensure MACOM awareness of REO initiatives concerning their subordinate commands. Each of the offices pays similar at-

tention to the relationship of the Army National Guard Readiness Center (National Guard Bureau) and the State Adiutants General.

The staffs of the REOs include an Office Chief (GS-15), an Environmental Attorney, project manager, environmental specialist, several Army Regional Environmental Coordinators (RECs), and an administrative assistant. Each of the REO Office Chiefs also serves as the DoD REC for the Region in which the Army is the Executive Agent.

The REO staff collaborates to publish monthly updates and periodic alerts on legislative and regulatory developments within their region. The REO staff also strives to report and disseminate information regarding DoD/Army environmental stewardship success stories. The REOs publicize this information via numerous sources that include REO quarterly newsletters, the USAEC "Environmental Update," and specific success story articles/flyers developed for distribution and available on the USAEC home page.

Each of the Army's RECs has assigned states within their regions and is the key to the success of the regional offices. The RECs travel extensively and remain on top of the developing legislative and regulatory activities in their area of responsibility, especially at the state level. The RECs both initiate and participate in partnering organiza-

exempt the Army's use of battlefield obscurants; revising regulations which preclude the requirement to obtain air permits for Tactical Support Equipment; reducing the frequency of emissions testing of Army non-tactical vehicles to bi-annual to conform with that required of other fleets; and requiring the regulatory agency to provide technical justification for proposed hazardous waste sampling and testing protocols. The RECs also uncovered and publicized numerous environmental success stories accomplished by the active installations as well as the Army Reserve and Army National Guard.

On the regional level, the Office Chiefs/DoD RECs coordinated the new Military Munitions Rule, briefing the states on DoD's implementation plan and reporting on the status of its acceptance by each of the states. DoD RECs have co-hosted White House Conferences on Environmental Technology within their regions, as well as Annual EPA Regional Federal Facilities Conferences. The DoD REC Region IV (Southern Regional Environmental Office) saved two Army installations hundreds of thousands of dollars in hazardous waste fees formerly paid to one of the states in that region.

Clearly USAEC, operating as a field activity of the

ACSIM, made a significant advancement in the Army's environmental program through the establishment of the Regional Environmental Offices. The REOs have only begun to return dividends on the investment. Installation and Garrison Commanders should welcome the potential for an added dimension of support when their Regional **Environmental Coordinator contacts** them in the near future. Commanders should feel free to enlist their RECs and use that individual as a resource in achieving the installation's environmental stewardship goals and objectives.

Mike Flannery works in the Western Regional Environmental Office, USAEC.

For more information on REOs, please contact:

Southern Regional **Environmental Office**— Region IV

Mr. George Carrellas SFIM-AEC-SR 430 Tenth Street NW, Suite S-206 Atlanta, GA 30318-5768 (404) 347-1570

Northern Regional **Environmental Office**— Region V

Ms. Janet Kim (Acting) SFIM-AEC-NR Aberdeen Proving Ground, MD 21010-5401 (410) 671-2427

Central Regional Environmental Office— Region VII

Mr. Michael L. Cain SFIM-AEC-CR Federal Building 601 East 12th Street, Suite 647 Kansas City, MO 64106-2896 (816) 983-3449

Western Regional Environmental Office— **Region VIII**

Mr. Jerry Owens SFIM-AEC-WR c/o Rocky Mountain Arsenal Commerce City, CO 80022-2108 (303) 289-0260

tions and forums (such as in pollution prevention) and each serves as a focal point to coordinate regional environmental activities within the Army, among the Services, and with the states and EPA Regions.

Some of the activities in which the RECs had an impact included educating the regulators on the Army's environmental program initiatives as well as the organizational relationships between installations and MACOMs. Over the past two years, the RECs established themselves as reliable points of contact for environmental program activities of the Army by cross-feeding information between the Services and communicating with regulators.

At the state level, RECs accomplishments include: affecting legislation to



n mid-September, The Commander of U.S. Army Corps of Engineers, Omaha District, and personnel from the U.S. Environmental Protection Agency's Region VII reviewed the cleanup work underway at the Iowa Army Ammunition Plant (IAAP). Impressed by the value enhanced cleanup work, they recognized that this work was accomplished because of successful partnering and the application of teamwork concepts. The remediation approach that is being undertaken will save over \$20 million.

The focus was on the current work involving the removal actions at the Line 1 Pinkwater Impoundment and Line 800 Pinkwater Lagoon areas, where 8,270 cubic yards and 74,736 cubic yards, respectively, of explosives-contaminated soil were excavated in

Corps and EPA review cleanup work at Iowa Army Ammunition Plant



Excavation of contaminated materials at the Line 800 Pinkwater Lagoon.

1997. The excavated soil was segregated by level of contamination and relocated.

Mutual agency goals of treating over half of the contamination are being achieved by using an old on-site landfill for lightly contaminated soil. Ecosystem enhancements of these remediation efforts include:

- Development of wetlands
- Using plants that absorb contaminants.

POCs are Rodger D. Allison, SIOIA-PPE, DSN 585-7101 and Leon Baxter, SIOIA-QA, DSN 585-7101 or e-mail: LBAX-TER@ria-emh2.army.mil

Leon Baxter is the chief of Quality Assurance at IAAP.



Seedbank material is placed on the bottom of the excavated area at the Line 800 Pinkwater Lagoon.

ETSC becomes Army Environmental Awareness Resource Center (AEARC)

by Kimberly Speer

new name, and a little extra. The U. S. Army Corps of Engineers' Environmental Training Support Center (ETSC) became the Army Environmental Awareness Resource Center (AEARC) on October 1, 1997. "We do indeed support environmental training, but our scope has widened along with the needs of the modern Army, and we wanted a name that reflects what we actually do," said Mary Hodgens of the center's information team.

The center offers numerous environmentally-related support services and products to the Department of the Army Headquarters, Army Environmental Center, Corps of Engineers, and Army installations. Services include support for environmental training and awareness, assistance with resources and source lists, and project management services. "Personnel are always available to answer inquiries on environmental awareness and training and fill requests for off-the-shelf and custom training material," promised Hodgens.

Products include developing printed materials such as brochures, soldier's field cards, Rolodex cards, placards,

(continued on next page)



Opportunity knocks at Aberdeen Proving Ground

by Elizabeth T. Longenecker

materials, maximizing worker safety, preserves the environment, and saves time and money. "We like to help people out. We use the majority

he Wood Model Shop at the Army Research Laboratory (ARL) at Aberdeen Proving Ground is "OK" with the post's Directorate of

Safety, Health and the Environment! Why? Because they have successfully met all of the Pollution Prevention Office's hazardous materials inventory goals through the voluntary Opportunity Knocks (OK) Program. The Wood Model Shop's exemplary environmental management strategy includes the avid use of water-based paints and finishes, highvolume, low-pressure spray guns for applications, and maintaining an inventory that contains no excess materials.

Dean Jarvis, manager of the Wood Model Shop, is proud of the products they use because they make good business sense. "We've been experimenting with water-based products for over 10 years and we've been using them routinely for about the last 6 years. They're safer to work with and easier to clean up. Additionally, we're very impressed by performance; for the majority of our applications, latex products perform as well as or better than their oil-based counter-

The Wood Model Shop also facilitates, on a case-by-case basis, other facilities' programs by providing hazardous materials to them in small quantities. This prevents stockpiling of

(continued from previous page)

posters, diagrams and stickers. Creation of videotape presentations, from scripting and editing to voiceovers and duplication, is also part of the Center's environmental awareness mission.

"Installations or activities pay only the direct cost of reproduction and distribution of projects, and many of our products are free. Salaries and overhead are on us, except for contracts required for video production," said Hodgens.

Along with the new name, new and special activities are now available. LEMAT, or SIBER (also known as SEIB-ERTH) stakes (used to mark areas off limits for training, environmental protection and environmental hazards) can be provided with both reflective and reflective/thermal imaging capabilities. Soldier's field cards (similar to the environmental cards used at facilities), and folded step-bystep instructions and maps, are part of the current Armywide effort to put environmental information directly in soldiers' hands.

A brochure describing the Army Environmental Awareness Resource Center's entire range of products and services is available by calling (205) 895-7408 (DSN 760-7408), or FAX (205) 895-7478. The Center is located at the Army Corps of Engineers, Professional Development Support Center in Huntsville, Alabama. The World Wide Web address is http://www.hnd.usace.army.mil/earc.

POC is Kimberley Speer, (205) 895-1692 or e-mail: Kimberley.Speer@smtp.hnd.usace.army.mil PWD

Kimberly Speer is a public affairs specialist in Huntsville.

of these types of products, so this case-by-case sharing system saves those that use a little at a time from having to store and track hazardous materials in large quantities," states Jarvis.

The Directorate of Safety, Health and Environment's (DSHE) Pollution Prevention Office conducts Opportunity Knocks visits at facilities that contain hazardous materials. A hazardous material is any substance that can damage health, harm the environment, and/or pose a physical hazard. These short visits help facility operators manage their hazardous materials inventories to:

- Increase worker safety.
- Reduce costs of hazardous materials purchase and disposal.
- Reduce time spent managing and tracking hazardous materials.

In order for a hazardous materials inventory to meet the APG Hazardous Materials Inventory Pollution Prevention Goals, the following conditions must be met for one year:

- The hazardous materials inventory contains no excesses of any one product.
- All hazardous materials are properly bar-coded and
- There are no expired products, unless shelf-life has been properly extended.
- The hazardous materials inventory contains some less hazardous products.

DSHE's Pollution Prevention Hazardous Materials Inventory Goals are best met through source reduction and reuse. Source reduction is reducing or eliminating the amounts of hazardous materials purchased and used. Reuse and recycling are the next best options. If more hazardous materials than needed are purchased, DSHE recommends transferring them to another building or activity on Post that will use them. The Installation HAZMART will identify other users for excess materials when excess inventory lists are supplied to them (E 5185, 5-7480). Hazardous materials must be properly treated and disposed of when source reduction, reuse and recycling are not possible.

In order for a facility to become an Opportunity Knocks Member, all of the P2 Inventory Goals must be met during or within 3 months of the initial visit. Once a facility adopts the recommendations made, the DSHE Pollution Prevention Office will return to the facility at their invitation to verify that all program goals have been met. The Pollution Prevention Inventory Goals must be maintained for one year.

If you are interested in learning more about this program, call Sheila Jones or Elizabeth Longenecker at 410-278-4529. PWD

Elizabeth T. Longenecker works in the Directorate of Safety, Health and Environment, Aberdeen Proving Ground.





Richard Todd checks the progress of a prairie planting by the approach to the Moline Bridge, which connects Rock Island Arsenal to the city of Moline, IL.

hen white settlers first came over land to what is now the American Midwest, they trod upon a vast expanse of prairie covered with native grasses and flowers.

So impressive was this landscape that it earned Illinois the nickname "The Prairie State." But as the population grew, more and more of the prairie in Illinois, Iowa, and other Midwestern states went under the plow or was claimed by cities and towns. Once compared to an ocean, the native prairie soon dwindled to a few patches scattered here and there, and was on its way to being lost entirely.

Today, the prairie and the indigenous species which grew upon it are staging a comeback around the Midwest. Prairie restoration projects are being carried out in a number of places, as Midwesterners discover the benefits of returning native plants to the soil upon which they grew for thousands of years.

The return of the native prairie landscape is happening at Rock Island Arsenal, which is located on an island in the Mississippi River between Illinois and Iowa. There, prairie restoration projects have been completed on more than 10 acres of land, with more restoration planned for the future.

Right now, the area around an Arsenal historic site known as the Davenport House is the best place to see the restored prairie. Eventually, stands of restored prairie will greet motorists entering and exiting the island via the Moline Bridge, the span which links the Arsenal to the city of Moline, Ill.

In both locations, prairie grasses and flowers replaced turf grass, a change which effectively supplanted a foreign invader.

All turf grasses, including "Kentucky" bluegrass, are derived from plant species which are native to Europe and Asia. These grasses like cool, damp

weather, and so in fact are ill-suited to the Midwestern climate with its temperature extremes and uneven precipitation patterns.

As every suburban homeowner knows, turf grass takes constant care and represents a considerable expense. Keeping up a good lawn requires mowing, watering, fertilization, aeration, and the application of herbicides and pesticides. Even with all that, your lawn could still turn brown or lose the battle to "creeping Charlie," the Midwest's most notorious weed.

In contrast, keeping up a plot of prairie requires the following steps: Plant it. Watch it grow. Burn it once a vear or less. Otherwise, leave it alone.

As Rock Island Arsenal's natural resources manager, Richard Todd of RIA's Directorate of Public Works oversees the installation's prairie restoration projects. Mr. Todd said that big savings in maintenance costs were one of the main



attractions of restored prairie.

"Our latest prairie restoration project by the Moline Bridge cost about \$13,000," Mr. Todd said. "That's not cheap, but we expect to get a payback in less than five years, based just on the money we'll save by not having to mow the area."

The savings will continue to accumulate indefinitely, Mr. Todd said, since a well-established stand of prairie has a projected lifespan of hundreds or even thousands of years.

"Hardly anything kills it," Mr. Todd said. "Prairie plants are extremely resistant to drought, can stand in water for weeks on end, can tolerate very hot and very cold weather, and can come away from it all looking and growing as well as they ever did."

According to Mr. Todd, prairie plants can also withstand fire, and in fact are rejuvenated by it. He explained that fire kills invasive plants, returns nutrients to the soil and allows new seeds to germinate.

"Before farmland took over, fires which were naturally caused would sweep through the prairie, which would burn down but come back better than ever," Mr. Todd said. To recreate this effect, he added, controlled burns are done on restored prairie plots.

The best time to burn a prairie is in the late fall, Mr. Todd said. Ideally, burns should be done once a year, but can be done less often.

Depending on the primary grass species selected, Mr. Todd said, restored prairie plots can grow to heights from three feet to five feet, with the taller prairie being the most popular. The roots of prairie plants are about as deep as the plants are high.

Researchers believe that prairie plant seeds can lay dormant for up to 30 years. Landscaping companies which specialize in prairie restoration recover many seeds and plants from pioneer cemeteries, which lay relatively undisturbed by civilization.

The \$13,000 project which Mr. Todd referred to was not paid for out of the Arsenal budget, or even financed by tax dollars. Instead, it was funded through the agricultural lease program operated by the U.S. Army Industrial Operations Command.

Under the program, IOC leases land on its installations for farming and collects payments from logging companies for timber harvests. (No farming or timber harvesting takes place on Rock Island Arsenal.) The money paid to IOC by the farmers and loggers is put into a separate fund, and can be used for conservation projects.

Mr. Todd credited Sal Marici of IOC Headquarters for walking him through the process of obtaining agricultural lease funding and for assisting him in obtaining future funding.

According to Mr. Todd, credit also has to go to his PW coworker, Don Gross, who managed the Arsenal's first prairie restoration project back in 1993.

That year, which is remembered best for a record-breaking flood, prairie grasses and flowers were planted on 1.1 acres of land northwest of the Colonel Davenport House. Despite heavy rain, the grass grew and the flowers bloomed as promised, proving that the prairie could be restored here.

One year later, another patch of prairie covering no more than a tenth of an acre was planted south of the Davenport House. In June 1996, a 3.5acre plot of prairie was planted to the east of the Davenport House, restoring a view which Colonel Davenport himself might have seen out of his window.

"In round figures, this island was half prairie and half trees before the arrival of white settlers," Mr. Todd said. He added that while the native Indians were frequent visitors to the island, they never established permanent settlements here, leaving the prairie pretty much undisturbed.

To provide a glimpse of what the island might have looked like back then, a path has been cut through the prairie plot east of the Davenport House. The path can be used by school groups and others who visit the Davenport House as a way to educate them about the prairie.

"We've cut a circular area along the path where people can gather in small groups," Mr. Todd said. "When the grass is five feet tall, and you lay in the rounded area, you can't see anything but sky and prairie, which is pretty much what the first settlers used to see."

You needn't use the path to cross the prairie, Mr. Todd said, and are free to wade straight through it, provided that you refrain from picking the flowers.

"The buffalo used to stampede through the prairie," Mr. Todd remarked, "so there shouldn't be any problem if people walk through it."

Be forewarned, though, that you may scare up an animal such as a raccoon, a rabbit, an opossum or even a snake. Fortunately, snakes in the grass on the Arsenal are rarely if ever poiso-

"Prairie plants make excellent wildlife habitat," Mr. Todd said. "Deer have bed down at night in our plots."

The largest prairie plot to date was planted this July, in a 5.5-acre field near the Moline Bridge. Due to a lack of rain, the prairie seeds germinated slowly and weeds invaded the area. But Mr. Todd stressed that the prairie planting was still salvageable.

"Once prairie plants get growing, they tend to crowd everything else out," he said.

The field was planted so that a strip of prairie three feet tall will grow on the edge and a strip five feet tall will grow in the middle. In 1999, pending the availability of agricultural lease funding, a three-foot-tall stand of prairie is scheduled to be planted on the other side of the bridge approach.

That prairie restoration project could be the Arsenal's last for a while, Mr. Todd said, since none beyond it are planned.

"Turf grass is still appropriate in most places," he explained. "You can't have tall prairie growing in front of your buildings.'

But if you did, you'd be able to enjoy a display of flowers throughout the spring, summer and fall. Different prairie flowers bloom at different times of the year, Mr. Todd explained, assuring a constant yet shifting array of colors. Prairie blossoms such as asters, coneflowers and black-eyed Susans have become popular and now stand alone in many formal gardens.

"In addition to all their other advantages, restored prairies are beautiful," Mr. Todd said. "Just looking at them makes me feel good about being part of prairie restoration." PWD

Paul Levesque is a public affairs specialist in the Rock Island Arsenal Public Affairs Office



A guide to improved installation operations

by Greg Brewer

The Army has changed dramatically over the past few years. Missions are changing as the national security strategy changes. However, a constant remains— the need for installations as power projection and power support platforms.

Recent downsizing and budget cuts are affecting the ability of installations to deliver the necessary mission support and making the business of running an installation effectively and efficiently more and more necessary but complicated. There is greater emphasis on the need for communications and sharing of current information. The capability to turn data into timely, accurate and useful information, to be able to analyze that information and then make informed decisions is the challenge facing all installation managers

all installation managers today.

cue! Geographic Data

and Systems (GD&S) pro-

vide the technological so-

lution to these problems,

integrating the diverse in-

formation necessary to operate an installation. With

these tools, information

today.

Technology to the res-

can be properly channeled to enhance communications, productivity, planning efficiency and improve the decision making process. With GD&S, information is viewed graphically, giving managers and workers a better understanding and perhaps new perspectives on their jobs and the relationships to the work of others. What had been just data on a page, suddenly becomes an understandable picture depicted on a

clearer. Integrated management of an installation becomes timely and more accurate, a must in an era where constrained flexibility will make doing it right the first time critical.

What is GD&S? It is a computer system that employs data referenced to a location on the earth using absolute, relative, or assumed coordinates (spatial data). These systems are commonly referred to by other names, including Geographic Information Systems (GIS), Computer Aided Design and Drafting (CADD), Automated Mapping/Facilities Management (AM/FM). These systems are used to capture, store, display, manage, and manipulate graphical and related attribute data. They provide installation personnel with the tools to automate the overlay mapping

process which is the foundation of many site assessments, planning studies, environmental impact studies, engineering design projects, and other installation business functions.

Since there are many approaches to using GD&S, how

do you determine what the best solution is for your installation? The Real Property Management Tool "Apply-

ing GIS Technology to Installation Management Implementation Guide" ("RMAT GIS Guide") has

been designed to help answer this question. The RMAT GIS Guide helps identify the benefits of GD&S and defines steps to be followed to implement it at your installation. The RMAT GIS Guide was sponsored by the Assistant

Chief of Staff for Installation Management, Headquarters Department of the Army, and co-authored with Software Development Center, Washington. The guide is available on the Internet at http://sdcw.army.mil/sbis_ism/ism_sbis.html.

The most sophisticated and useful GD&S is a GIS which is the primary focus of the RMAT GIS guide. The RMAT GIS Guide presents steps to follow in determining the need and uses for a GIS, how to procure and install a GIS, and problems or pitfalls of which you should be aware when considering the procurement of a GIS.

GIS is the computer technology for managing, manipulating and analyzing spatial (mapping) data. GISs are available in many levels of capability from simple desktop systems, which allow graphical display of relational data to full featured map development and maintenance systems, which allow complex analysis and markup of map displayed data.

If you already use maps or can picture a map helping you conduct you business, a GIS may help you. Typical installation business functions that can be improved with the use of a GIS are:

- Cantonment building and grounds maintenance management.
- Utilities management.
- Environmental stewardship.
- Master planning.
- Health and safety support.
- Emergency services.
- Range, training and other land use management.
- Facility assignment and utilization.
- Hazardous materials/waste tracking.

All rely on maps, all have attribute data, and frequently, one business function crosses another requiring the sharing of information. The interactive sharing and more effective use of information creates the efficiencies that will save time and dollars. The RMAT GIS Guide explains how to do a needs analysis that will show you the inter-relation-

computerized map or facility floor plan.

Impacts of decisions or actions become



ships of installation databases and business functions and how a GIS can help.

Because implementing a GIS at an installation is expensive, an implementation plan should be developed that addresses data collection/conversion, hardware and software configuration, business functions, system management, staffing and funding support, training, and implementation phasing if the system is costly and complex. A cost benefit analysis should also be prepared. These documents are discussed in the RMAT GIS Guide. A key factor to note is that this plan must have continued support of both management and users to make a GIS successful.

The RMAT GIS Guide also discusses data standards, thematic lavers, data sources and data maintenance. Data collection, conversion and verification are the most expensive portions of installing a GIS. Therefore, you should only collect and maintain the data that will be used and only have one proponent for any one database. This will eliminate duplication of data and assure that the data is kept current by its owner. The level of detail of data greatly affects data acquisition and maintenance costs. The greater the detail, the greater the resolution, the higher the cost. The RMAT GIS Guide provides more information to assist in determining data accuracy requirements and scale requirements.

Perhaps the most helpful feature of the RMAT GIS Guide is that it presents an actual GIS solution using commercial off-the-shelf software, installed and working at two Army installations. It references the hardware and software necessary and sources for procuring same. It also provides system configuration information.

The writing of the RMAT GIS Guide was a collaborative effort of the Assistant Chief of Staff for Installation Management, U.S. Army Center for Public Works and Software Development Center — Washington. For additional information, please contact:

Software Development Center — Washington ATTN: AMSEL-RD-SE-IS-SDW-E-I-H5 6000 6 Street, Suite S122A Fort Belvoir, VA 22060-5576 PWD

Software testing meets downsizing

by Frank Schwenk

s part of the Integrated Facilities System (IFS), the testing of change packages has always followed a set pattern of procedures, time schedule and tradition. This testing consisted of three parts: System Development Test, Software Qualification Test and the User Acceptance Test. Prior to the turnover of the software to the user, the software development community conducted three levels of tests on the screens or the reports. This system of testing usually resulted in the software being tested for the better part of four to five months prior to fielding. At any point in the process, an error might be found and the software recycled over again. As the resources of the Systems and Maintenance Division shrank, more creative means had to be found to test the software without reducing quality.

Systems Change Package 11-00 (Integrated Facilities System—Client Server) was a complete restructuring of the current IFS system as it existed in the field. The entire system had changes from the data base to the input forms and the output processes. To speed up the test process, several innovations were tried. USACPW functional experts began trying and looking at the input screens almost as soon as they were created by the programmers. This gave the programmers real time feedback on their product early on in the process.

Preceding this technique, a set of Windows standards was adopted against which all development was done. This provided a common look and feel throughout the whole system. As time progressed, some of these standards were found to be deficient and were changed. However, most were found to be sound and guided the project.

The Real Property Module programs and screens were delivered early and provided an early view of what the system would look like. MACOM representatives and some of their installations were invited in to sample this module. Based on their feedback, changes were made to make the system more user friendly.

During the second half of the system development phase of testing, installation users were invited in to test and work the system. This was the first time that users were invited to test the system so early. Usually users are invited in during the Software Qualification phase (the next phase). This was done to provide additional eyes and hands in the test process, and to get early feedback on user acceptance of the screen standards.

The technique of doing early testing at all stages helps improve the quality and reduce the cost of the product. It is an industry tenet that the earlier an error or bug is discovered, the easier and cheaper a correction can be made.

This testing concept did not reduce the quality of the product. During the User Acceptance Test at Fort Stewart, only 17 problems were uncovered. These could be divided into two classes: those that derived from differences in the systems environment at Fort Stewart and the conditions at Fort Lee and those driven by "real user" desires to make the system easier and quicker to operate. For example, the people who input large volumes of Labor and Equipment transactions touch type and do not look at the screen. They required an audible signal to tell them that they had an error. This was done and the user was happy.

The second deployment site at Hunter Army Airfield went smoother, followed by the third at Fort Eustis which, in one word, became "Boring." But in this case, Boring is good, meaning that nothing unexpected occurred.

USACPW would like to thank all the MACOMs and installations that made the testing go so well. For additional information on the testing of IFS software, please contact Frank Schwenk, (804) 734-2012 or e-mail: frank.c. schwenk@cpw01.usace.army.mil PWD.

Frank Schwenk works on Integrated Facilities System testing and fielding issues in the Facilities Management Directorate at Fort Lee, VA.



omeone should give John Bowen a raise. By using CERL-developed software and his own innovations, he will save taxpayers some \$4 million in railroad track repairs over 3 years. And that's for repairing just 29 miles of track — a fraction of the Army's 2,500+ miles of rail.

Faced with the costly plans for repairing 29 of the 42 track miles at Blue Grass Army Depot (BGAD), Kentucky, Bowen began to question whether 115pound rail was needed for all conditions. If a smaller size rail would suffice, the savings could be substantial. He loaded up his copy of TRACK from CERL and began to experiment.

"I used the TRACK program to look at different loadings and speeds on the track, and found that 115-pound rail was well within the limitations for stress. So then I took a long shot to try and see if 100-pound rail would be strong enough to support my traffic and found that, in many cases, it would," he said.

TRACK gives Directors of Public Works (DPWs) a computer tool to easily and accurately assess railroad track structural condition. Using Windowsbased pull-down menus with pick lists and prompts for other data, the program provides valuable insight into a track's current load carrying capacity. It then allows a comparison of various rehabilitation options based on how, and to what extent, they would improve the load carrying capacity. DPWs can use this information to compare the economics of each option.

"Managers can make changes in the track structure representing work that could be done, and TRACK shows them the potential effect that would have on the load carrying capacity," said Don Plotkin, CERL researcher who developed the program. "It checks for over- and under-stressing of components and lists the findings as percentages, making it easy to gauge current condition and what could be expected with proposed upgrades."

At BGAD, TRACK showed Bowen how he could substitute 100-pound rail in areas such as storage, service, and passage tracks where speeds are always limited to 10 miles per hour or less. He then asked experts at the Corps' Omaha

Program puts Kentucky Depot on "TRACK" to savings

by Dana Finney

District to validate his findings. Based on the sound engineering principles behind TRACK, Omaha said, "Go for it!"

But Bowen didn't stop at finding ways to save on material costs. Through his own initiative and help from the Waterways Experiment Station, he identified unused stockpiles of 100-pound rail at both active installations and some closing under Base Realignment and Closure. "During that time, the installations began to realize they could profit from salvaging that same trackage, so my sources started to dry up," Bowen said. Undaunted, he started looking at organizations outside the Army and found supplies at Navy, Air Force, and NASA sites. BGAD got the rail for the cost of transporting it at a huge savings over purchasing it new. In locating the rail, he also managed to obtain over 6,000 new ties for the depot. He recently found another \$700K in rail at Umatilla Chemical Activity, Oregon.

Besides TRACK's analysis, an equally important component of BGAD's success was tightening the contract specifications. The Corps of Engineers Guide Spec (CEGS) was not overly demanding in its requirement to provide adequate track gage, so that the track could be placed in full compliance after construction. Too much variance in gage requires slower speeds of 5-10 mph maximum and this was not acceptable at BGAD beause it impacted the mission. BGAD is a Tier 1 ammunition depot with a mission to provide munitions needed by U.S. forces during the initial days of mobilization. Rail transport of these munitions is critical to getting them to the warfighters. Bowen rewrote his specs to hold the contractor accountable for gage that allows "full compliance" according to Technical Manual 5-628 (Army track standards). Omaha District decided to use his document as a model to revise the CEGS.

"The work was originally estimated at about \$17.9 million, but it ended up costing about \$14 million, which saved about \$4 million in OMA funds," Bowen said. In addition, he negotiated for BGAD to receive \$60-90/ton of the scrap rail removed in the project.

CERL's TRACK program is the first attempt to combine moderately complex assessment methods with a simple, user-friendly package. Previous methods of doing track structural analyses were either oversimplified, giving "one size fits all" results, or too complex and time-consuming to attract most managers. Methods such as the "40-percent rule" for tie loading and "typical" ballast pressure diagrams are simple to use, but have limited accuracy because they assume a given load distribution and don't allow for different material properties, track condition, or the critical interaction between track components. Some sophisticated computer programs do account for these variables, but the user needs special knowledge to determine the input data, run the program, and then interpret output. They also consume big chunks of hard disk space.

CERL developed TRACK to be somewhere between those two extremes — easy to use but accurate. Funded by the Army Transportation Systems Center and CPW, TRACK can be used as a stand-alone program or as a feature within RAILER, the Railroad Maintenance Management System. It runs on any computer capable of operating Windows.

And best of all...it's FREE! You can download TRACK from the world wide web at http://pavement.wes.army. mil/pcase.html or contact CPW for a copy as well as help in using it (POC Mike Dean, COMM 703-806-6050).

For more information on TRACK or railroad track structural analysis, contact Don Plotkin at CERL, (217) 373-6749 or toll-free, 800-USA-CERL, ext. 6749, e-mail: d-plotkin@ cecer.army.mil. John Bowen can be reached at (606) 625-6315, e-mail: jbowen@bluegrass-emh1.army.mil PWD

Dana Finney is the chief of the Public Affairs Office at CERL.



HOGSSOM DAVALOUNG

College students gain hands-on engineering experience at Europe District

by Marnah Woken

66 What I've learned this summer will oving out of your comfort zone and being forced to adapt really help me in school. Book knowledge is important—but the experience to new surroundings can be a challenging experi-I've gained here is invaluable. 99

—Angele Rogers, Civil Engineering major

Eleven students from Historically Black Colleges and Universities took that challenge the summer of 1997 at Europe District, participating in a threemonth program offering opportunities to minorities

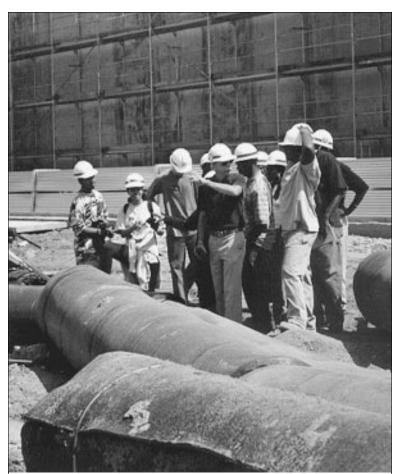
in the engineering field.

"This program offers the opportunity for future minority engineers to get hands on experience in the engineering field," said Elaine Lawson, Europe District Management Analyst and coordinator of the program. "We work very closely with AMIE, which stands for Advancing Minorities' Interests in Engineering," she added. They in turn work with Historically Black Colleges and Universities to recruit students for the program.

Europe District has participated in the program for the past four years, according to Lawson, who added the U.S. Army Corps of Engineers recently signed a formal agreement with AMIE, bringing all Corps Districts into the program.

AMIE is a nonprofit coalition of nine Historically Black Colleges and Universities, according to AMIE Executive Director Marvin Bembry.

"The effort of AMIE is designed to increase the number of African-Ameri-



Students from Historically Black Colleges and Universities visited Corps project sites including the Mannheim Commissary project. (Photo by Elaine Lawson).

cans entering the field of engineering," said Bembry. "We do this by impacting the infrastructure of the schools through partnerships, as well as developing relationships with private industry and government agencies such as

the Corps," he added. Schools participating in the program include Florida A&M University, Hampton University, Howard University, Morgan State University, North Carolina A&T State University, Prairie View A&M University, Southern University, Tennessee State University and Tuskegee University.

During their time at the Corps, the students gain experience in the areas of installation support, planning and environmental, engineering, project management, field office work, information management and Computer-Aided Design and Drafting.

Twenty-year-old Joi Turner, an Electrical Engineering major from Morgan State University talked about her experience in Project Management. "This has really broadened my horizons," she said. After my experience here at the Corps, I've decided I really like the business side of engineering."

Angele Rogers, a 21year-old Civil Engineering major who will attend Howard University in the fall worked in Planning & Environmental. "They put me to work right away,' said Rogers. "What I've

learned this summer will really help me in school. Book knowledge is important—but the experience I've gained here is invaluable."



"It's a good experience working in another country," said Darren Walls, a 21-year-old Architectural Engineering major at North Carolina A&T State University. "I've learned about the different engineering and safety codes and I've also learned how to adapt to a lot of different situations," he added.

Jerome Myers, a 21-yearold Civil Engineering major at Morgan State University gained valuable work experience in Project Management. "There are so many different directions to go in engineering," said Myers. "This program has given me more exposure and experience and it has helped me determine where I want to go and what I want to do."

Gregory MacKenney, a 21-year-old Electrical Engineering major at Morgan State University remarked on his experiences in the Engineering Division. "This has made me more aware of what the real world of engineering is all about," he said.

Solomon Caviness, a 21-year-old Civil Engineering major at North Carolina A&T State University gained experience in the area of Installation Support. "Being here has taught me a lot," commented Caviness. "I've had the opportunity to experience the business side of things and really see how it works."

Whether it's refining their interests or gaining valuable hands-on experience, Bembry believes the program offers numerous benefits. "In a global oriented society such as ours, this is a very valuable and diverse experience for the students," he explained. "It gives them the opportunity to see what engineering is like in the real world, and it offers them the opportunity to refine their interests."

Bembry also commented on how the program gives students the opportunity to develop their leadership and teambuilding skills. "Through this work experience, the students are also able to develop leadership and management skills. Not necessarily people management skills, but project management skills."

Not only is the program highly beneficial to the students but to the Corps as well, according to Bembry. "The benefits to the Corps are an investment in the future," he said. "We expect some of the students to become employees of the Corps and from a philo-

*There are so many different directions to go in engineering. This program has given me more exposure and experience and it has helped me determine where I want to go and what I want to do. "

—Jerome Myers, Civil Engineering major

sophical standpoint, it gives the Corps the opportunity to give back to the citizens of the country— particularly to those citizens who often times have not had these opportunities in the past."

Bembry said another benefit to the Corps is some short-term relief to a very heavy workload— a comment Lawson echoed.

"Here at Europe District, we have a lot of work to do so the benefits are re-

> ally twofold," said Lawson. "The students are learning and at the same time we're increasing our productivity."

Lawson also believes the students bring new ideas and concepts to the Corps that energize the work environment. "These future engineers help bring diversity to the Corps," she said. "If we are to stay a competitive work force we must ensure that we have a diverse work force."

http://www.morgan.edu/ academic/special/amie/amie.htm PWD

PROSPECT course replaces IFS-M Real Property course

new course is being added to the existing PROSPECT programs for Army Master Planners and Real Property Specialists. The new Real Property Applied Skills Course will replace the former IFS-M Real Property Course. The new course, offered at Huntsville, Alabama, is a full three-day course on the real property functional and applied use of the IFS-M/Real Property Standalone. It will provide basic skills for Real Property clerks, technicians, and officers on the use of the Real Property Module and basic knowledge of Real Property Accountability.

Through lecture and hands-on computer exercises, this course covers the preparation of the DD Form 1354, the process and procedure for the accounting of real property, management of real property/real estate

instruments, and the automated system used to maintain the real property inventory (RPI).

Attendees should be engaged in the accountability and management of real property. Participants require minimum fundamental knowledge of real property/real estate and the automated system to maintain the accountability.

The class is limited to 24 students. Interested individuals should submit their DD 1556s to the Registrar Office at the Professional Development Support Center (PDSC) at Huntsville, (205) 895-7469 or FAX: (205) 895-7422. For more information, please call the Huntsville Course Coordinator, Ms. Janine Wright, (205) 895-7455, or CPW POC, Alexis Wathen, (703) 428-7465 DSN 328. The next class is scheduled for 19-21 May 1998. PWD



Army railroad track standards and maintenance training courses

or FY 98, the U.S. Army Center for Public Works (USACPW) is sponsoring two separate railroad track standards and maintenance training courses. One course focuses on the basics of Army and Air Force railroad track inspection and maintenance fundamentals; the second course concentrates on the advanced aspects of railroad track inspection and maintenance. Both courses serve to meet the railroad track inspector requirements for certification under Army Regulation (AR) 420-72. The basic course is a prerequisite to the U. S. Army Railroad Track Inspector Certification Exam; the advanced course is a requirement for recertification.

U.S. Army Railroad Basic Track Standards and Maintenance Training

This eight-day course will provide essential training in the area of railroad track standards and inspection. Conducted at the U.S. Army Corps of Engineers Waterways Experiment Station (USACEWES), Vicksburg, Mississippi, from 24 February to 5 March 1998, this course presents the Army railroad track maintenance standards along with methods by which maintenance can be performed to correct deficiencies.

It includes two sessions of field work, an introductory field trip and track and turnout inspection. For both sessions, students should bring sturdy work boots, appropriate work clothing, and a jacket, poncho or other rain gear in the event of inclement weather.

Completion of this course, with a satisfactory passing grade on the course exam, is required for enrollment eligibility for the Army certification exam.

U.S. Army Railroad Advanced Track Standards and Maintenance Training

This course will be presented at the McAlester Army Ammunition Plant (MCAAP), McAlester, Oklahoma, from 28 April through 7 May 1998. It meets the three-year refresher training requirement for the recertification of Army track inspectors.

Railroad track maintenance will be taught using classroom and field instruction. The latter includes extensive hands-on training in which techniques for correcting track deficiencies are taught along with demonstrations of automated track maintenance equipment by the MCAAP railroad repair crew. For the field work, students should bring steel-toe work boots, leather gloves, durable work clothing, and a jacket, poncho or other rain gear in the event of inclement weather.

Enrollment for both courses is limited to 30 students. For Army personnel, the tuition is paid by USACPW. Air Force, Navy, or other DoD personnel may attend by either paying a tuition of \$1,500.00 to reserve a slot or placing the candidate's name on a waiting list for available tuition-free slots that may open after the registration deadline.



The **registration deadline** for the basic course is 10 February 1998; for the advanced course, 14 April 1998.

For additional information, please contact Jim Routson, USACPW, (703) 806-5995 DSN 656, or Dick Grau, USACEWES, (601) 634-2494 DSN 542. PWD

CPW offers boiler/cooling water treatment workshops

he U.S. Army Center for Public Works will offer Boiler Water Treatment Workshops on the following dates:

13 - 15 January

2 - 4 June

16 - 18 June

In addition, the Center will offer a Cooling Water Treatment Workshop from 24 - 26 February.

Each of these workshops is a comprehensive training session that covers the purpose, application, and testing of boiler water or cooling water treatment programs and chemicals. Also presented is the latest news regarding policy, technology and assistance. The workshops are recommended for facilities engineers, plant foremen, plant operators, mechanics

and others responsible for the operation and chemical treatment of boilers or cooling systems.

There are no tuition costs for these courses, which are held at Fort Belvoir, Virginia. The student's installation, however, is responsible for all TDY expenses and arrangements.

Spaces are limited and filled on a first come, first served basis. Information packages are sent to students one month before the course dates. On-site training is also available on a reimbursable basis.

To reserve a space in one of the courses, please contact Crispus Sawyer or Nelson Labbe, Sanitary & Chemical Division, CECPW-ES, at (703) 806-5206 DSN 656 or FAX (703) 806-5216. PWD

Public Works

